ITEMS OF INTEREST.

VOL. VIII. PHILADELPHIA, OCTOBER, 1886. NO. 10.

Thots from the Profession.

PROGRESS IN DENTISTRY.*

DR. LOUIS OTTOFY, CHICAGO.

There are several phenomena connected with the advancement of our science, that are worthy of notice. The rapid progress of our calling into a state resembling a profession, is such, that it astonishes the general public as well as the profession. What are the causes?

Dentistry was fortunate in having at its beginning men of sterling integrity, culture, and education; and who threw heart and soul into their life-work; by whom Mammon, the all-important god of to-day was not the idol to be worshiped, and men who had a keen sense of the importance of their work.

The first generation of dentists in this country, composed mostly of men past middle age, happily, lived long enough to imbue the second, and rapidly growing class, with the importance of our specialty. We are glad this new generation signalized its entrance by a departure from the old conventional secretiveness unbound by laws unwritten, into a new field of liberality of thought and freedom of expression. This generation, of whom not many remain, but who are its honored members, and who stand at its lead, is fast being followed by the third, the youngest and the rising members of the profession, and it is for them specially our remarks are intended.

Evidently the original thought of the first generation was a betterment of the status of the members, but not specially by advancing through the doors of science, but through portals of surgical and mechanical skill, yet neither scientific. Therefore, its disclosures were gradual and slow, for science is liberal and rapidly disseminated. Individual mechanical skill and judgment, rather than principle, and well

* Read before the North-Western Dental Association at Fargo, Dakota, July 27th, 1886, but altered and re-arranged for publication by Ed. ITEMS.

formed and arranged facts, were the guiding stars of success. Researches, led to discoveries, at once wonderful, which had not been grasped by the second.

The lack of acting on principle by early practitioners though not commendable has been to the advantage of the present day, and disastrous to old-fogyism. Changes of practice are rapidly taking place —practice formerly based on manipulative skill and individual judgment (the latter often erroneous), is now replaced by practice guided by established rules and principles. This is greatly due to the energy of the second generation of dentists, in whom happily there is combined the manipulative conservatism of the old school, with the scientific liberality of the youngest, both gaining by the contact.

True progress is slow but steady, though unfortunately sometimes unperceptible, only for the past and present, but the young school, fostered so gradually by education and legal restrictions is developing into a flower whose beautiful blossoms will cast its fragrance in the near future.

It behooves this generation of dentists to establish for all things pertaining to the profession, an underlying principle and a scientific foundation under all practice based on theory. As much energy as can be spared from remedying the ravages of the past, should be devoted to the prevention of future evils; we must work for the past and present, but never lose sight of the future.

No one can be progressive whom the wants of to-day and to-morrow clutch so fast, that thought or deed looks not beyond. He who, in operations of any kind sees and works for that which is beyond, knows the secret of true progress. Such a dentist is a teacher as well as an operator. To insure true and steady progress is one of the essential duties of the younger members of the present generation of dentists, and the lessons of the past and present should be freely drawn on for this purpose; the record and causes of failures being studied, should be aids in preventing future evils. Hence progress is aided by keeping and improving by a systematic record of cases; and this should be a record of facts rather than mere supposition, theories or unreliable views. Another feature and perhaps the one which mainly caused our phenomenal progress is the elevation of the standard of requirements Knowledge and education is the key which will disclose all things on earth, and perchance even op' the portals of Heaven. Our educational system is however hardly complete. To a great extent, "The Almighty Dollar" rules. Our dental schools, societies, and laws have done much, and with thorough post-graduate studies made obligatory, they will do still more.

In this steady march of learning there should not be forgotten the

essential need of general public teaching. The dental education of the masses, and the eradication of the evils wrought by so many erroneous teachings of our own profession in the past, should receive careful attention; tooth-saving, and the improvement of tooth-structure, rather than repair should receive much thought and study. Let the aim be the final eradication of dentistry and all need for it. Let us perfect the art of dentistry by making it a true science. To insure the best results, let us have the best manipulative abilities, gradually divide that which pertains to art from science, and finally science by its noble teachings will make art less needful. Our highest advancement is the result of *scientific* progress. Let a demand be made that all dentists enter this noble field.

In careful thought and individual original scientific research is to be found the triumph of our profession.

Let not the need of present gain make us forget the general advancement of dentistry, let us labor so that some of our own thoughts may live and move after death. In closing I ask that each in his own way to investigate some subject tending to overcome caries and all other diseases of the mouth. Let each one add at least a single thought, or establish one fact, that can be used in the consummation of the final victory.

Replantation.—About a month ago, a young man, twenty years old, of bilio-lymphatic temperament, came to my office, having had about two hours previously his two upper central incisors accidentally knocked out. Proceeding at once to syringe well the sockets with phenated tepid water, in the proportion of one part phenol sodique to twenty of water, and having washed the roots thoroughly with the same preparation, taking care not to injure the pericementum, I replaced the teeth carefully, holding them in place under upward pressure for five minutes, after which I dismissed my patient, with directions to call again if trouble ensues. I did not see the young man again till two weeks afterward, when meeting him accidentally, I found the teeth doing well, and no sign of disturbance noticeable, except a slight soreness about the right central, felt only when pressure was brought on it. At present they are all right, and have resumed their former usefulness.

Linglestown, Pa. E. B. SMITH, D. D. S.

Colophony as a Hemostatic.—Prof. Bonafoux, at a recent meeting of Academy of Medicine, at Paris, read a paper on a powder which possesses great hemostatic power, and is capable, it is said, of arresting the bleeding of large arteries, so that it will prove serviceable in important surgical operations. The powder is prepared by mixing equal parts of colophony, carbon, and gum arabic.—*Medical and Surgical Reporter.*

ARE HYDRO-CARBON OR GAS FURNACES A SUCCESS?

DR. C. H. LAND, DETROIT, MICH.

For those who are not familiar with the nature of hydro-carbons, the philosophy of their combustion, etc., gas furnaces are not satisfactory; but the mastery of a few definite facts will make the whole subject plain, and the process easy. During the past year it has been my pleasure to bake over one hundred sets of continuous gum work, also sections of block work, porcelain, etc. This I have done with no more trouble than to turn on the desired quantity of gas and air and wait till the operation of baking was completed. Starting from a cold muffle it requires but fifteen minutes for the first biscuit, ten minutes for the second, and fifteen minutes to enamel, and where two furnaces are employed a slab of sectional block teeth can be enameled every five minutes in the most perfect manner with unerring precision. Some gas furnaces have been a failure principally on account of their liability to gas the teeth. The accompanying illustration will make the philosophy of combustion more clear, and give the reasons why teeth are injured. A, represents the burner; B B B, fire-brick lining; C C C, combustion chamber; D, interior of muffle. The arrows indicate the direction of the blast. The space in the combustion chamber between

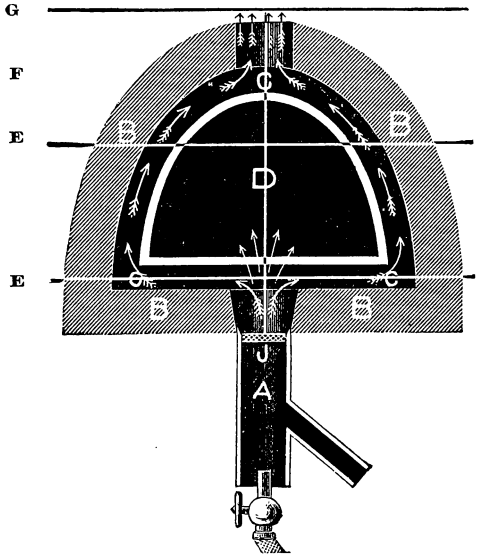

FIG. 0.

the lines E E is where carbon monoxid (c o) is formed,—a gas containing one equivalent less of oxygen than carbondioxid—simply an imperfect state of combustion. It is this gas that injures the body and the enamel. By reference to the illustration it will be seen that the little arrows are made to appear passing through the pores of the muffle,

and as the direction of the blast from the burner, A, is directly against the bottom of the muffle, with a pressure of one pound to the square inch, a portion of the carbon monoxid (c o) is extremely liable to be forced through its pores, and will be taken up with the body during the first and second biscuiting, here to remain till the enameling process; and as this takes a much higher degree of heat, it causes the gas to be eliminated, as shown in the numerous small bubbles on the surface. The space between the lines E E and within the combustion chamber, C C C, should be known as the first stage of combustion, where a certain portion of carbon monoxid (c o) is always present, and the space F, between the lines G and E, within the chamber, C, should be known as the second stage of combustion. In the first stage of combustion one equivalent of oxygen from the atmosphere unites with the hydro-carbon to form carbon-monoxid (c o) in the second stage, two unite to form carbon dioxid ($c\ o_2$), or carbonic acid. In my first experiments in baking porcelain with hydro-carbon fuels, nitrogen was injected into the muffle as a protection to the teeth, and proved highly successful. Further investigation has shown that porcelain can be baked satisfactorily by using but little air. Fig. 1, represents my new Furnace closed and ready for muffle work. In Fig. 2, see exposed position of muffle. A A Fig. 1, is iron pipe capable of both a sliding and swinging motion (see L, Fig. 2) to which the door or plug is securely attached. Rubber tubing B Fig. 1, connects with air supply at cock C. This regulates the quantity of air passing into the muffle. In the former illustration you have seen that the monoxid of carbon (c o) is extremely liable to penetrate the muffle. We will assume that a small portion has entered the muffle; then what could be more reasonable than to force in a small quantity of air to unite with (c o), to form ($c\ o_2$,). To prove the theory correct, the entire upper portion of the muffle can be perforated with holes, this will allow the products of combustion ($c\ o_2$,) to pour in it a constant stream, and yet a set of teeth can be baked successfully without any danger of gasing, though, owing to the one equivalent of carbon, a slight discoloration of the enamel will be observed. By perforating the muffle with three ¼ inch holes on the upper portion of the rear end it will give vent to foul gases, and when a current of air is passed in at the front the tendency would be to pass out at the rear. As this current of air consists of nitrogen and oxygen, the latter would unite with any (c o) that might be present, leaving an excess of the former, nitrogen not uniting radically with anything, serves as a protection to substances placed within the muffle.

It has been customary to perforate the end of the muffle in coal or coke furnaces, and as the natural draft would draw a sufficient quantity of air through the muffle, any monoxid of carbon present

would be eliminated, consequently teeth were not gased unless placed in a cracked muffle. In all hydro-carbon furnaces it is necessary to use a blast to secure the required amount of heat, and the pressure must be at least one pound to the square inch. This is to force the proper quantity of oxygen into the combustion chamber. Perfect combustion

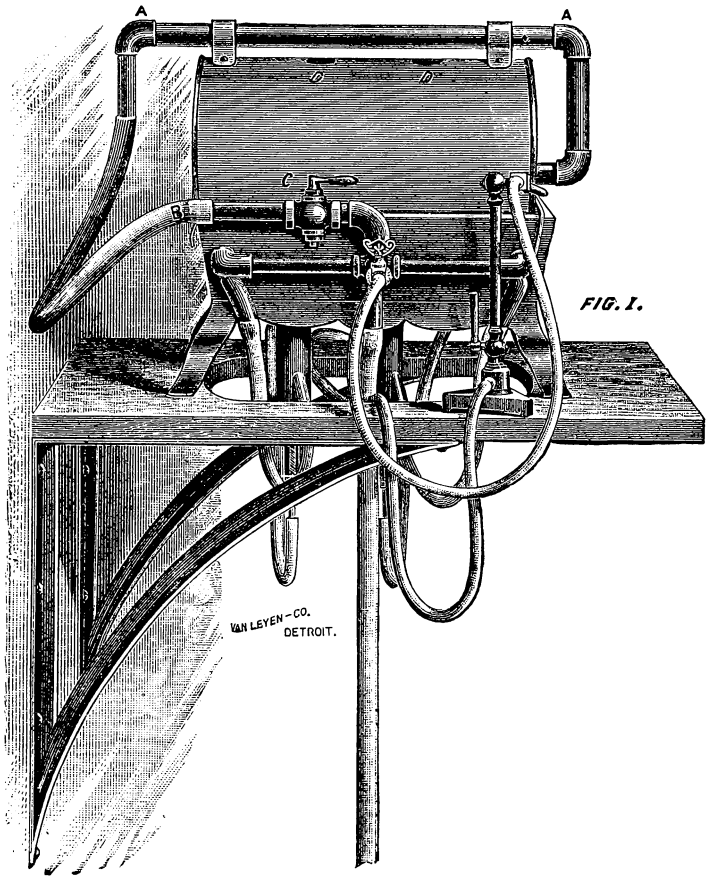

FIG. 1.

will not take place in natural draft furnaces, because a sufficient quantity of air cannot be drawn into the combustion chamber without the use of a positive blast. It therefore becomes necessary to force both the air and the gas under pressure into the combustion chamber, the higher the pressure the greater the heat. My office is located in a building where steam power is available, from this I secure an air supply conducted by means of gas pipe into my laboratory, so that by simply turning on a supply of gas and air, teeth are baked with much less trouble than vulcanizing. Where it is customary to bake every

day, a motive-power is the most desirable, but where only an occasional set of teeth is required, the ordinary foot bellows answers better. But fifteen minutes of pumping is sufficient for each bake, and with a little assistance the work is comparatively easy.

The use of Gasoline. During the past year, I have been using 74 gasoline with as perfect results as any other hydro-carbon; and with

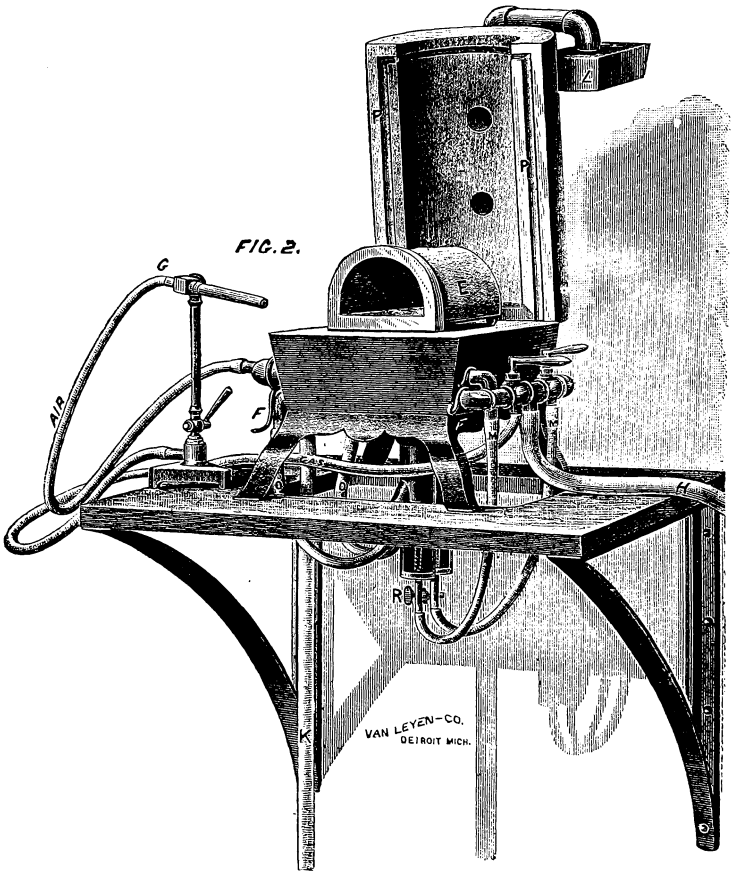

FIG. 2.

the ordinary foot bellows, as manufactured by the Buffalo Dental Manufacturing Co., I can bake a set of continuous gum work in fifteen minutes starting from a cold muffle. All kinds of crucible work and soldering with the blow pipe, can be done equally well as with city gas. One gallon of gasoline costing 15 cents, will bake a set of teeth. Therefore, dentists living in localities where there is no gas can secure equal advantages in the use of ordinary 74 gasoline.

IF NOT, THEN WHAT?

DR. L. P. HASKELL, CHICAGO.

The discussion still goes on in regard to the effect of rubber plates on the mucous membrane, not only of the mouth, but of the throat, stomach, and sometimes of the entire alimentary canal. There is a determination on the part of some to deny that there are any injurious effects whatever, except as they claim, are incidental to the use of any materials for plates in the mouth.

One rises, in a convention, and with his thumbs thrust in his vest pocket, and an oracular air, announces that the peculiar conditions existing under rubber plates are owing to the plates not being smooth, and not being kept clean. Another asserts that if the mouth is cleansed with a tooth brush there will be no trouble; and still another says if the plate is left out nights the bad effects will cease. For forty years I have been engaged in this specialty, and for the last fifteen years have paid particular attention to the conditions of the mouths, noting especially the difference under various materials. Eight years ago I spent two months in Boston, where I had formerly practiced. I had occasion to meet many of my old patients, who were wearing full sets, made 22 to 28 years previous. Of course, they were all metal, having been made before the advent of rubber. In every case the gums were hard and healthy, showing no signs of absorption since the plates were inserted. This was quite a revelation to me, as I had been accustomed for several years to witnessing the ravages of rubber plates, many cases where the process was all gone, and in the vast majority of instances where these plates had been worn for five years and upward, showing undue and constant loss of process.

As to the lack of smooth surface, I have seen just as bad results under a glassy surface as under a surface not as smooth; and as to lack of cleanliness, have seen many metal plates, just as filthy, and yet no such conditions of the membrane. No, gentlemen, these results are the effects of a *non-conducting* material,—just how it acts I cannot say. Independent of this there are other effects, that occur *only* under the red rubber. If it is not the mercury, then what is it?

I will cite a number of cases, Dr. Justin Hayes, of Chicago, a well known physician, had a partial set on red rubber plate. In less than an hour of its insertion, he was seized with spasms in the throat, which were relieved only by the removal of the plate, and recurring again on its insertion; after a thorough trial he gave it up and had one of black rubber made precisely like the other, which he has worn many years, with no inconvenience.

Dr. H, had sent me a patient who had worn a full set of red rubber for seven years, and during the entire time had a singular condition of

the stomach. Even with a fair appetite he would recoil from the presence of all food except in a liquid form. His whole nervous system was unstrung. Dr. Hayes in diagnosing found these red rubber plates, and told him to have them replaced with metal. He came to me and on consultation told me he could not afford metal, so, as an experiment, I made him celluloid plates, which has the same coloring material. He left feeling quite happy. In two weeks he returned, saying he was as bad off as before, after wearing them a week, and by the advice of a dentist, had left them out for a week, and was much better. I then made him metal plates, and he has had no recurrence of the trouble, now six years. A lady who had worn a red rubber plate for twelve years, and during the entire time had a sore mouth, stomach trouble, and chronic diarrhea, was at once completely relieved by the substitution of metal. Her physician afterward told her he had treated her for symptoms of *mercurial poisoning*, but whence it originated, and why he could not mitigate the symptoms, he could not see. The symptoms would return in twenty-four hours on replacing the rubber plate.

Another lady had worn red rubber plates for two years, and during the entire time suffered from chronic diarrhea, having at times twenty operations of the bowels in twenty-four hours. The substitution of metal plates at once relieved her. The wearing of the rubber plate for a day would produce the old symptoms. Her mother was a homepathic physician, and wondered why none of the usual remedies failed to produce any relief.

Another lady, who had worn a red rubber plate for five years had constantly a sore mouth, extending around the outside at the corners, inflamed throat, and stomach trouble; her throat finally became so inflamed and partially paralyzed that she could not swallow solid matter. After consulting dentists and physicians, a young man, a recent graduate from a dental college, told her the trouble was caused by her red rubber plate, and to demonstrate it, told her to leave it out for a week. She did so, and she immediately began to improve. The dentist after a while made her a set on metal, and she had no recurrence of the trouble till several months after. Her children bantered her about chewing gum, telling her she could not, on account of her false teeth. To show them she could, she chewed some for two days, and her old symptoms returned. On investigation it was found the gum was what is known as "rubber gum" and made of red rubber.

If these facts can be explained on any other hypotheses, than *mercurial poisoning*, I am ready to be convinced.*

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*Let us have a full expression of our brethern on the other side.—Ed. ITEMS.

NATIONAL ASSOCIATION OF DENTAL FACULTIES.

The National Association of Dental Faculties held its third annual meeting in the Park Theatre, Niagara Falls, commencing Monday, August 2, 1886, President C. N. Peirce, Philadelphia, in the chair.

The following colleges were represented:—

Pennsylvania College of Dental Surgery—C. N. Peirce.

Chicago College of Dental Surgery—T. W. Brophy, A. W. Harlan, F. H. Gardiner, J. A. Swasey, and L. P. Haskell.

Missouri Dental College—W. H. Eames and A. H. Fuller.

Boston Dental College—J. A. Follett.

Philadelphia Dental College—S. H. Guilford.

University of Pennsylvania, Dental Department—James Truman.

Baltimore College of Dental Surgery—R. B. Winder.

Dental Department, State University of Iowa—L. C. Ingersoll and A. O. Hunt.

Dental College of the University of Michigan—J. Taft and J. A. Watling.

Ohio College of Dental Surgery—H. A. Smith.

New York College of Dentistry—Frank Abbott.

Kansas City Dental College—C. B. Hewitt.

The following additional colleges were admitted to membership:

Minnesota Hospital College, Dental Department—W. A. Spaulding.

Vanderbilt University, Dental Department—W. H. Morgan.

University of California, Dental Department—S. W. Dennis.

Harvard University, Dental Department—Thos. Fillebrown.

Dental Department of St. Paul Medical College—L. W. Lyon.

Dr. Winder, chairman of the Committee on text-books, reported verbally that so much opposition to the plan submitted had been expressed last year that he had concluded to let the subject rest till this meeting, so as to get the views of all the schools possible. Since he arrived here he had learned that a much larger number of the profession were in favor of the idea than appeared at the meeting in Chicago. A work is being prepared under the editorial supervision of Dr. Wilbur F. Litch, but it is an encyclopedia of dentistry, and probably not what we shall require, which is a series of practical text-books. If there is a sentiment in favor of the movement to provide first-class text-books, the next thing to do is to go to work to get them up; but it is a task that cannot be hurried. Such a system of books would make the teaching in the different colleges uniform, and would put money enough into the hands of the publishers to insure the prosecution of the work. It would be a man of considerable temerity who would undertake the preparation of a work on operative dentistry, and the probabilities are

that when completed the profession would have taken a step a long way in advance of its teachings. But we must have something, and the best thing we can do will be to get up the best we can.

After discussion, on motion of Dr. Guilford, a committee of five, consisting of Drs. Abbott, Winder, Ingersoll, Guilford and Fillebrown, was elected to take the subject into consideration and prepare suggestions as to the general scope and plan to be followed in the preparation of a series of dental text-books.

Dr. Abbott offered the following resolution, which was adopted and referred to the Executive Committee:

Resolved, That a standing committee on schools be elected, whose duty it shall be to ascertain us far as practicable the workings of all dental schools in this country and Europe, and be required to furnish information to the dean or secretary of any college when desired, and to report in writing at each meeting of this association.

Dr. Truman offered the following, which was adopted:—

Resolved, That the dean of each school be required to furnish the executive committee with the exact character of the intermediate examination, and whether any of them are final.

Dr. Truman offered a resolution that the winter terms of all dental colleges members of this association shall be at least seven months in duration. On motion of Dr. Abbott referred to the representatives of the different colleges, with the request that they report on it next year.

Dr. Guilford was appointed as a committee to codify the rules adopted by the association and prepare them for publication in the annual announcements of the colleges.

Dr. Fillebrown, secretary of the committee on text-books, read the report, stating that in the judgment of the committee text-books are needed on the following subjects: Oral Surgery; Dental Pathology and Therapeutics; Operative Dentistry and Orthodontia; Dental Chemistry and Metallurgy; Dental Prosthesis. Books on other subjects seem to be very well provided for at present. The report recommends that committees be appointed to solicit the writing of such books and to examine the manuscript, and if found acceptable to authorize their publication, as text-books on these subjects, with the endorsement of this association, that the publication of the various books shall be under the supervision of committees composed of the professors in the colleges of this association of the particular branch of study to which the book is devoted, or such persons as the faculties may select; that the committees shall have power to solicit writers for the subjects named, and to require the books to be written on a plan acceptable to the committee, and that the final copy be submitted to every member of the committee, and unless it receives the approval of at least three-fourths of the whole committee it shall not be considered approved; that each

writer shall be expected to retain the complete ownership of his manuscript and to publish at his own expense and risk.

The report was adopted, and the chairmen of the committees on publication were appointed as follows: "Oral Surgery," T. W. Brophy; "Dental Pathology and Therapeutics," James Truman; "Operative Dentistry and Orthodontia," Thos. Fillebrown; "Dental Chemistry and Metallurgy," A. O. Hunt; "Dental Prosthesis," S. H. Guilford.

The following officers were elected for the ensuing year: C. N. Peirce, President; R. B. Winder, vice-president; H. A. Smith, secretary; A. W. Harlan, treasurer; Frank Abbott, James Truman, J. Taft, executive committee; Frank Abbott, James Truman, R. B. Winder, committee to decide questions arising before the next meeting.

EXSECTION OF DENTAL NERVE—TWO CASES.

REPORTED TO THE GEORGIA DENTAL SOCIETY, MAY 11, 1886,
B. H. CATCHING, D. D. S.

Case First.—Dr. H., druggist by occupation, age thirty-six years. Two years ago he felt the first pain in the left side of inferior maxillary, located about the molar teeth. After bearing frequently recurring paroxysms, he consulted a dentist, who extracted one of the molars, but only very temporary relief was obtained. After a short time another molar was removed without relief.

A year ago, and after twelve months of constant suffering, he called on me for advice. No abnormal condition was found either in bone or soft tissues. The remaining molar had an amalgam filling in the posterior proximal surface; this I removed, but found no diseased pulp; the dentine was sensitive, the tooth responding to thermal changes. The cavity was re-filled with gutta-percha; but no improvement was made. I advised the removal of the tooth, as a means toward relief. To this he would not consent, his experience with extraction not having been satisfactory. I diagnosed the case to be pressure on the dental nerve, and informed him that in all probability an exsection would have to be performed before he got permanent relief. To this he grunted in dismay, and concluded he would endure awhile what he could not cure with the aid of a whole drug store and the advice of good physicians.

I wrote to Dr. Garretson, giving him a history of the case, and as is usual with him, he replied promptly, stating that from my statements my diagnosis was correct, and that an operation would probably give relief.

Finally, after a second twelve months of severe paroxysms, growing more frequent and severe, which would be brought on by simply opening the mouth to speak, a stroke on the beard, or taking a morsel

of food; and after exhausting his drug store and physician's resources, he came up to have a final examination, bringing his physician.

I insisted again on removing the tooth, and if no relief was obtained to have the severer operation performed. They left my office, to call again. In the meantime he visited his physician's dentist, who advised the removal of the tooth, and, in attempting to extract it, broke it off even with the alveolar process.

An appointment was made with me for the next evening, at which time I proceeded to operate, with Dr. Olmstead as anesthetist. With a scalpel the process around the remaning roots was made bare of the gum. With cutting forceps I removed piece at a time of the bone and roots, finally cutting down on the dental nerve and removing a section of about half an inch. The roots of the tooth were in such a pipe-stem state that every effort to extract them whole proved a failure. Hemorrhage was profuse, which delayed the operation. Not anticipating so extensive an operation at this time I did not prepare instruments entirely suitable for exsection. In fact, I began the operation as alveolar tooth extraction, and wound up with nerve exsection. Had I expected to perform the exsection at this time I would not have used the dental chair or office, but would have had the patient at his home, on a lounge.

About one hour after the operation, vomiting of the swallowed blood began, which so irritated the stomach that for two days only crushed ice could be tolerated. After about six days the patient was out, and to this day has had no recurrence of the pain.

Case Second.—Barbara Snyder, colored; age about 55 years; of stout build; a cook.

October, 1884, she felt the first twinges of pain in the right side of her face, which, as she expressed it, "seemed to spread out like a thousand threads." For several months there was no definite location of pain; it spread over the entire side of the face and scalp. After that its local point was about the canine fossa, where it remained up to the time of the operation.

The paroxysms would recur every few minutes, with an occasional respite of a few hours. Simply passing the hand over the face or hair, or a cloth applied to bathe the face, would cause paroxysms. After seventeen months of suffering, the latter five very intense, and after exhausting the skill of a dozen physicians and every suggested remedy without relief, I was called. I found the old woman hovering over a fire with a shawl around her head, swaying from side to side, tears pouring down her cheeks, hope of relief gone and wishing for death.

Her upper teeth and many of the lower had been in vain extracted for relief. Everything presented a remarkably healthy condition.

Exsection was determined on, and the patient made acquainted with its character and probable results. She caught at it as a last means of obtaining relief. On the second day following, the patient was placed on a lounge (a most convenient arrangement for position), and chloroform administered by K. C. Divine, M. D. With R. Y. Henley, D. D. S., to man my Bonwill engine, the operation proceeded as follows:

The gum on top of the ridge from the position of the lateral incisor to that of the second bicuspid was removed; the bone on either side from the same points was made bare; with a circular saw a tranverse section at both terminal points was made; the lateral flaps were held back, and the saw was passed on the labial and palatine sides, cutting from one transverse section to the other. With a pair of bone-cutting forceps a section was removed; then, with a large bur, the bone overlying the nerve was removed, and the nerve cut away.

While hemorrhage was quite severe, very little blood was swallowed. The situation of the operation, and the position of the patient, afforded an easy direction of the blood out of the mouth. The wound was dressed with cotton saturated with carbolated water, five drops to the ounce, with which she was directed to wash her mouth frequently. It healed readily, and to-day, two months after the operation, the old negro is well and rejoicing.—*Southern Dental Journal.*

A VISIT TO FOREIGN DENTAL SCHOOLS.

A. W. HARLAN, M. D., D. D. S., CHICAGO, ILLINOIS.

A recent visit to Europe enabled me to observe the workings of the dental schools of London, Berlin and Paris. Before describing what I saw and heard in London, a few preliminary remarks concerning requirements for admission to English dental hospitals may be useful. Applicants for entrance to British dental schools, who commenced the study of dentistry prior to 1878, are not required to pass the entrance examinations; all others must. This comprises the English language, grammar, and composition, English history, modern geography, Latin, including grammar and translation, elements of mathematics, vulgar and decimal fractions, algebra (simple equations), geometry, including the first two books of Euclid, elementary mechanics of solids and fluids, including statics dynamics and hydrostatics, and one of the following optional subjects: Greek, French, German, Italian, or other modern language, logic, botany, or elementary chemistry.

The student is required then to register himself as a dental student at the office of the General Medical Council. After such registration he must pursue his studies for four years in one of the recognized

schools, including in that period an apprenticeship in mechanical dentistry under some registered dentist. Before taking his final examination for the L. D. S. degree, he must attain the age of twenty-one years. During the four years of studentship he attends lectures on general anatomy, pathology, chemistry, surgery, materia medica, physiology, and other general medical and scientific subjects in a regular medical school. He also does his dissecting, chemical and histological work, including the work of dresser or assistant in a hospital ward in the same school. Dental anatomy, physiology, surgery, mechanical and operative dentistry, special therapeutics, anæsthesia, and other special subjects, are taught in the dental hospital, including practical work in operative dentistry.

Instruction in mechanical dentistry, is obtained from private sources. The theory of mechanical dentistry, including carving of bone, ivory, etc., manufacture of instruments, swaging, soldering, and the putting up of specimen cases, is taught in the dental hospital. Practical cases are not made in the dental schools of London. (I was so informed.)

On entering the Dental Hospital of London (founded 1859), situated on one side of Leicester Square, you at first find yourself in the reception room for patients (which is open daily, except Sundays, from 9 to 11 A. M.) A clerk or bookkeeper records the age, sex, residence, occupation, and other facts of this nature relating to the patient, including the kind of operation required as filling, extracting, correction of irregularity, cleansing teeth, surgical operation, or other services. The patient then goes upstairs, where he is received by the house surgeon or his assistant, by whom he is assigned to the student. There are plenty of patients. If an anesthetic is to be administered it is given by the regularly appointed anesthetist of the school, or under his direction. He attends daily. At least one clinical instructor is present daily, who performs some operation in filling or otherwise, during his hours of service. The house surgeon and his assistant have charge of the operating rooms, and furnish the materials for filling, etc., to the student, who collects the fee. When the student gets a sheet of gold (No. 4) he pays thirty-six cents for it, and of course gets as much or more from the patient. No charges are made for plastic fillings, tin, gutta percha, or other services, except for gold. This has a tendency to discourage the use of gold by the patient. He prefers the filling which costs nothing. The student, in consequence, does not get from this method of fees as much practical use of gold, even in twice the length of time, as he obtains in an American dental college. From what I saw I should say that very little cohesive gold is used by students in the hospital. Certainly not many large and complicated gold

fillings are made by them during the two years' clinical work. They obtain a knowledge of the use of non-cohesive gold, however, which is perhaps quite as valuable in practice, because the English dentists as a class (with few exceptions) do not attempt to make large gold fillings, preferring plastics, pivoting or extraction, when cavities are large or teeth are pulpless, as they argue, from the system of fees which are in vogue, that it does not pay the operator; that people will not submit to prolonged operations, and that in many cases large gold fillings will not prove as serviceable (through lack of care of the teeth after filling, etc.), as frequently renewed plastic fillings.

Root filling is taught, but I fear many (at present) do not practice it with that care and thoroughness which we in America deem essential to success. It is not considered good practice with us to fill roots of teeth with cotton, or to leave them unfilled and drill a vent-hole in the side of the root. Many dentists in Great Britain and on the continent practice in this way daily. American methods of filling teeth and roots of teeth have not taken that deep hold on the European practitioner which some theorists would gladly have us believe. Many foreign dentists—like some at home—read nearly everything that is published, but do not put into practice what in many cases would be better for their patients. They are content with the knowledge they possess, and do not easily take up with new ideas. They are too conservative.

The rubber dam is used in the hospital. The gentlemanly house surgeon explained his teaching and practice. I think they have about one chair (not modern) for every three or four students. The operating rooms, though located on the fourth floor, are not well lighted, and are not sufficiently commodious, as there are two or three rows of chairs back from the windows. Dental engines were numerous, and many were in actual use. The students are not boisterous, they indulged in no loud talking, and appeared to be somewhat older than the average at home.—*Dental Practitioner.*

Apnea and Anesthesia.—What justification have we for the assertion that apnea never produces anesthesia? There is a way of producing a state of apnea by rapid respiration. If we breathe very rapidly till we cannot keep it up any longer it is quite certain anesthesia is produced to some extent. It must not be forgotten also that the conditions of nitrous oxid narcosis differs greatly according as it is given with the expiratory valve closed or opened. In the first, the gas and expired air being rebreathed, there is excess of nitrogen, with deficiency of oxygen, in the other there is deprivation of oxygen.—*Dr. Hutchinson, Eng.*

TEETH OF SHARKS.

C S. TOMES' DENTAL ANATOMY.

The shape of the jaws differs in the various groups, in some each of the two jaws being a tolerably perfect semicircle, while in others they are nearly straight and parallel to one another; but in all the rounded working surface of the jaw is clothed or encased by teeth, which are arranged in many parallel concentric rows.

The teeth, which are situated on the edge or exposed border of the jaw, are usually erect, while the rows which lie behind them, farther within the mouth, point backward, and are variably recumbent, not having come into full use.

In this respect, however, marked difference exists among various genera of sharks; for instance, in the great tropical white shark the teeth which lie on the border of the jaw are erect, and all the successive rows are quite recumbent, whereas in many of the dog-fishes the inner surface of the jaws forms an even rounded surface along which the rows of teeth are disposed in every intermediate position between those fully recumbent at the innermost part of the jaw, and those fully erect on its exposed borders. Only a few of the most forward rows of teeth are exposed, a fold or flap of mucous membrane covering in those teeth which are not as yet fully calcified and firmly attacht to the gum.

In the variety called Lamna, which may be taken as fairly illustrative, the teeth are arranged round the jaws in concentric rows with great regularity, the teeth of the successive rows corresponding in position to the teeth of older rows, and not, as in some other sharks, to their interspaces. They are attached by being embedded in a densely fibrous gum, which closely embraces their bifurcated bases; and this dense gum, carrying with it the teeth, slides bodily upward over the inner face of the jaw, and outward over its border, beyond which, to borrow a phrase from geological science, it has an "outcrop."

In Lamna the second and third rows of teeth are only partially erect, the rows behind these lying recumbent, and being in the fresh state covered in by the fold of mucous membrane, which, being dried and shrunk in the specimen figured, falls short of its original level.

Thus rows of teeth originally developed at the base of the jaw are carried upward and come to occupy the foremost position on the border of the jaw, and are then cast off. It is thus easy to understand why sharks' teeth are so abundantly found in a fossil condition, though other indications of the existence of the fish are rare enough; for every shark in the course of its life casts off many teeth, which fall to the bottom of the sea.

The teeth are never ankylosed, or stiff jointed to the jaw, nor have

they any direct connection with it, but, as before mentioned, are retained by being bedded in a very tough fibrous membrane.

The sheet of fibrous gum slides bodily over the curved surface of the jaw, continually bringing up from below fresh rows of teeth.

The forms of the teeth in various sharks are different and characteristic; nevertheless they vary somewhat with age in some species, and present differences in size and form in the upper and lower jaws, or in different parts of the mouth of the same individual. For instance, in Lamna, in the upper jaw, the third teeth of each horizontal row, counting from the middle line, are very small, while in both jaws there is a gradual diminution in the size of the teeth toward the back of the mouth.

Thus, though it is often possible to refer a particular tooth to its right genus or even species, much care is requisite in so doing.

The teeth of the bloodthirsty white shark are triangular flattened plates, rounded on their posterior aspect, with trenchant slightly serrated edges.

The intimate relation between the teeth and the dermal spines, which from the standpoint of development, is apparent in their histological structure. There are many dermal spines to be met in sharks, which seen alone could not be distinguished from teeth, the resemblance both in outer form, in minute structure, and manner of development being complete. A fair example of a structure common in sharks is a central body of osteo-dentine, the outer portion with dentinal tubes so fine, regular, and closely packed as to merit the name of hard unvascular dentine, and over this again a thin varnish of enamel. (?)

Yet no observer from its structure alone could feel sure whether it was a large dermal spine, or a tooth. Dental tissues occur in other parts of the mouth besides the jaws in some sharks, not only in the embryonic stage, but in the adult. Thus Professor Turner has described very numerous comb-like appendages 5 inches long on the bronchial arches of the Basking Shark, which apparently perform the same function as whalebone in straining the water. These combs are formed of a variety of dentine? (osteo-dentine), and closely resemble in structure the true teeth, which are however very small in this shark.

In the seas of Australia there exists a Shark, the Cestracion, with a very aberrant dentition, to which great interest attaches, because it is the sole surviving representative of forms once spread all over the world. In the front of the mouth the teeth are small and very numerous; they are flat plates fitted by their edges to one another, while from their centers spring sharp points, soon worn off when the tooth reaches such a position on the jaw that it comes into use.

Toward the back of the mouth the teeth are gradually less pointed, and they increase in size, and become fewer in each row. Those which have come into use are, toward the back of the mouth, always much worn; their shedding and renewal takes places, as in other sharks, by a rotation of the mucous membrane over the surface of the jaw, so that, as might be expected, many of its isolated fossil teeth are found.

The teeth of the Cestracion are fitted for the trituration of such hard substances as shell-fish, &c., which are its food. The teeth consist of vaso and osteo-dentine, protected by what is apparently a structureless layer of enamel.

OXYGEN AND HYDROGEN, AND NITROGEN AND HYDROGEN.

DR. GEO. WATT.

When oxygen and hydrogen are united in the proportions of eight parts by weight of the former to one of the latter, we have the stable compound known as water; and the elements are very firmly held together. Were it not for their elasticity—their desire, as it were, to assume their legitimate gaseous forms, it would be almost impracticable to separate them. All know that water is not very easily decomposed.

But by steps not necessary to describe here, the hydrogen can be induced to combine with, and thus take up, another equivalent of oxygen, or eight more parts, and thus the peroxid of hydrogen is formed, composed of one part of hydrogen united with sixteen parts of oxygen. These parts of oxygen are held by a very feeble affinity; and contact with most oxidizable substances will result in decomposition, eight parts of oxygen being given off, and the compound being reduced to water. In peroxid of hydrogen, as well as in water, the elements are held together by the force known as affinity, but the quantity of oxygen being almost too great for its power, half the quantity held is readily separated. The memory may be aided here by a simple illustration. A police officer may be able to hold one culprit without difficulty; but he may find so much effort necessary in holding two, that one or the other may be easily rescued by his comrades in vice.

Consider nitrogen. Oxygen unites with it in several proportions forming a variety of separate and distinct substances, widely differing in appearance and properties. At one point here the rule as to modifying influence of quantity of matter seems to fail. Of these several compounds, nitrous oxid is the least oxidized, and yet it parts with its oxygen very readily. Eight parts of oxygen combined with fourteen of nitrogen form nitrous oxide, and sixteen of oxygen united with fourteen parts of nitrogen form nitric oxid. Now it will be noticed that nitric oxid bears the same relation to nitrous, that peroxid

hydrogen does to water; but here the analogy stops. Nitrous oxid is so ready to give up its oxygen that the gas is decomposed so readily that a spark is rekindled into flame almost as if it were immersed in pure oxygen. The two elements are held together by the feeblest possible affinity.

Nitric oxid is decomposed with difficulty. Instead of the nitrogen there readily giving off its oxygen, this gas takes more oxygen, from the atmosphere or from almost anything containing it. So energetic is the affinity that the gas has scarcely risen from the liquid in which it is generated till it has taken oxygen from the atmosphere sufficient to change it to nitrous acid, two steps higher in the scale of oxidation. This can be demonstrated by a simple experiment. Take a common glass vessel and, put a few scraps of copper in it, and partly fill with nitric acid. Bubbles of gas are seen rising through the liquid, and these are nitric oxid, a transparent colorless gas. But before this gas has escaped from the mouth of the glass it has changed to an orange or red color, caused by nitrous acid.

The energy with which nitric oxid takes oxygen from other substances explains why it is such a deadly poison. Could it reach the circulation, it would at once take the oxygen from the red corpuscles, and thus destroy their function; while, as it would thus be converted into nitrous acid, it would destroy the entire corpuscle by corrosion. This explains the principal danger in the practical use of nitrous oxid by inhalation. If a very minute proportion of nitric oxid is mixt with the nitrous, and the mixture is inhaled, the air passages are corroded by nitrous acid—yes, still worse—for in the presence of moisture, nitrous is changed to nitric acid. And can any one be surprised that great mischief is done.

It is an important and interesting fact that whenever nitrogen is oxidized to any extent, if air and moisture are present, the oxidation rapidly runs up to the highest possible degree known as nitric acid.

The first degree, called nitrous oxid, or protoxid of nitrogen, is very easily decomposed; and nitric acid readily yields three of its five equivalents of oxygen, being thus reduced to the second degree, called nitric oxid, which, as has been said, is rapidly run up to nitrous acid, and, with the aid of moisture to nitric acid.

In view of these various changes, there is no element that calls for more careful study than nitrogen, yet, as it is looked on as a sort of passive element, none is, perhaps, so much neglected. Let it have close attention.—*Ohio State Journal.*

Dr. E. Cowles.—What is the best for sensitive dentine at the neck of a tooth?—*Items of Interest.* (We have had good success with chlorid of zinc.—*Archives.*)

DENTAL FIBRILS.—ODONTOBLASTS.

PROF. G. V. BLACK, JACKSONVILLE, ILL.

In New York First District Society.

It required a hundred years of observation and discussion before a man arose who observed sufficiently well to declare that caries did not begin within the dentine. Should we fall out with a man because he is mistaken? No. We should hope that he will look further. This is the result of faulty observation. I have certainly done enough of this class of dissecting to have some right to speak.

When you have extracted a tooth, throw it at once into Mueller's fluid, and let it stay about a week. Then crack it in a vice. A little experience will enable you to split the tooth lengthwise without crushing the pulp. Now, catch the pulp with a pair of pliers, and pull it out of its bed. Some of the odontoblasts will adhere to the pulp, and the fibrils to a considerable length will be pulled out of the dentine, while some of the odontoblasts will remain, adhering to the dentine, with the fibrils pulled out considerably from the canals. By placing the pulp in a freshly-filtered solution of Mueller's fluid, and examining it with a good hand-lens, you can tell where the fibrils have pulled off, or remained attached to the pulp, by the fuzzy appearance of its margins produced by the fibrils. If it is found that some have adhered to the dentine, which is usually the case, you may put that part of the tooth into staining-fluid, and stain before removing them if you like. To remove them take a knife with a rounded point with which you can plow along down that part of the canal or pulp-chamber in which the odontoblasts have remained; have fluid in the canal,—glycerin is the best,—and bring the blade down on a glass slide. You will be pretty sure to get a good many odontoblasts, and the most of them will hang together in flakes so that the individual cells cannot well be seen. Using now your dissecting glass, break up these with needles somewhat, or simply shake about to detach any loosened cells; then lift out the larger flakes and lay them aside. Lay a cover-glass over the remainder, and examine it with a one-fourth or one-eighth inch glass. The chances are that you will find a considerable number of single odontoblasts with fibrils attached, that are four or five times as large as the odontoblasts; or the fibril may be short, or there may be no fibril at all; for in some cases they will not be stretched out in the canals in withdrawing the pulp. Some failures will be made, but usually it does not require many trials to get good views of these cells with a considerable length of fibrils. You never get the true form of the odontoblasts in sections cut from tissues hardened *in situ*.

The odontoblasts line the pulp-chamber, or cover the tissues of the pulp, and their processes, the dentinal fibrils, extend

into the dentinal tubes and through them into the periphery of the dentine. We have an affection beginning on the surface of the tooth; caries, or erosion, or absorption has exposed the distal ends of the fibrils. What is the result? We get hyperesthesia. Where do we find vital changes? John Tomes has been through this course of study long ago, and he began with the inflammatory theory. But he found that none of the elements necessary to produce the morphological changes which we know as inflammation could get into the dentine. The leucocytes could not get in; the blood could not get in. No morphological changes of the tissue itself could be discovered that in anywise resembled inflammation. Therefore, he concluded that dentine could not inflame. Still, he was not willing to give up the idea, and he searched this tissue to see whether or not it manifested any changes peculiar to itself. And the more he studied the subject the less he found of the doings of vitality, till he yielded everything. Still, the dentine is sensitive, and sensation is a manifestation of vitality. It is a law of physiology that the processes of cells are especially receivers of impressions. This is most strongly manifested in the nervous system,—the nerves are processes of cells. But it is true of other tissues as well. Where is the pathological change accompanying that sensitiveness manifested? The dentinal fibers reach through the dentine; they are processes of living cells; and the morphological changes are found in the pulp-chamber, in or about the cells of which the fibrils are processes. In one case of erosion the pulp lays down more dentine; in another the layer of odontoblasts becomes atrophied; in another the whole pulp may become hyperemic, etc. But you cannot demonstrate changes attributable to vitality in the dentine. Now, I know there have been some such claims based on the protoplasmic string notion, but these findings may be duplicated in teeth that have never given any history of disease whatever. The things seen were there from the time of the development of teeth. It is another case of faulty interpretation.

The term "fixed material" is a good one. What do we mean by it? The word *organic* is sometimes used to represent anything that has been built by the life-process. Fixed material is an organic material forming a part of the organism, but not possessed of life, and is incapable of performing any vital function. It is passive. These enamel-prisms are fixed material. This dentine, the hard portions, all except the dentinal fibrils, is fixed material, and is entirely passive. It may be acted on, but it cannot itself act. It is formed from within outward, and the organ from which it has derived its nutrition has disappeared. The life process has built this enamel,—laid it down there; and old Dame Nature, life, has stepped backward on tiptoe and gone

off and left it, as a good mother would do with her sleeping child for fear of waking it; but, unlike the good mother has never returned.—*Cosmos.*

DISCRETION IN FILLING MATERIAL.

DR. J. W. CLOWS, NEW YORK.

Several years ago a young lady came to me for an annual inspection. Since early childhood her teeth had been under my care, and the result of judicious culture was seen in dentures of marvelous beauty. In pleased possession, year after year, she had brought them, faultless and without blemish, in review before me. But now a change had come. Along the cervico-labial portions of her upper front teeth were discovered pits of softened dentin and enamel, white to intensity, and super-sensitive to the touch. Horror-struck at this sight, I still had hope of saving them with gold. In the most precise manner I excavated and filled these pits, only to find after several months a white ring of extension round the virgin gold. The saving processes were again applied with like result. Subsequently oxyphosphate of zinc was employed, and it soon disappeared by solution and the brush. Then my patient inquired why I did not fill her teeth with *amalgam.* Startled at so grave a proposition, it took me some time to reply "really I do not know what else to do," and doing it with her approval, she still retains her teeth in safety and peace.

The second incident of practice relates to the mouth of an aged lady who came to me recommended by a friend in whose family I had labored for three generations. Examination revealed a remarkable instance of transverse grooving on the teeth of both jaws, which I declared an act of denticide by her own hand, and drew from her the question as to what she should do. My patient was a lady of wealth and refinement, had employed none but the best dentists, and her fillings were invariable of gold. Some courage was requisite to answer her, and I said: "Are you unalterably prejudiced in favor of gold as a filling for your teeth?" She replied, "My friend, bade me to have no opinion of my own as to what should be done,—that I was to leave all to you without question and without prejudice." Then I explained my purpose to fill her teeth with a plastic substance called *amalgam*—a material that would be efficient and humane above all others, and that the very habit which brought the grooves might still go on, under changed conditions, to preserve and brighten and make comely. These pits were acid creations,—the action of muriated tincture of iron on the lime of the teeth. The grooves came from a like cause, supplemented by the brush, which cut out channels deep in the softened bone.—*Cosmos.*

HOW TO BECOME A GOOD DENTIST.

DR. B. H. TEAGUE.

After two years of close application under a conscientious and painstaking preceptor, the student is then ready to enter the dental department of a university. The intervening time between the winter sessions should again be spent under the supervision of the preceptor; and after graduation a year with him as an assistant, will be of much benefit to the newly fledged dental doctor.

It has been my observation that the graduate who has not availed himself of the benefits of a private tutor, may be skilful after a manner with cohesive gold, may know little of non-cohesive gold, is sure to dislike amalgam and other plastics, and is a very indifferent plate-workman—even with rubber. He is a bungler at such fine prosthetic dentistry as pivoting, cap-crowning, and bridge work. In fact, is almost an ignoramus, practically, in all that relates to artistic metal work. Often I have had said to me, "Why, Doctor, they never taught me *that* at college." The colleges cannot demonstrate everything. In all probability, the different phases of practice are described in the lectures; but the most interesting and special practice is not practically taught the student, unless occasionally by some dentist invited to give a clinic. The patients who are served at the college infirmaries are generally poor, and do not demand anything more than either simple operative or mechanical dentistry. The scope is therefore limited as compared with the daily routine of a busy dentist. A graduate who has received instruction only within the walls of a college, should place himself with a well-established dentist as an assistant. The time spent will not be thrown away. A practical knowledge will be thus gained to help him over many of the rough and troublesome obstacles in practice. He will better satisfy himself and more efficiently serve his patrons, and receive the greater pecuniary return from future practice.

—*So. Den. Jour.*

The Amalgam War.—Who can read the records of the so-called "amalgam war," without a pitying contempt for the pitiable, arrogant intolorence that refused to test this material, and denounced and dismissed from membership in the American Society of Dental Surgeons honest and earnest men, *unless* they would sign an agreement not to use "the stuff." ! ! And how that blush mantles when I read later on that some of the very men who were denouncing amalgam, or who held their tongues when they should have spoken in its defence, were slyly using it all the time but did not think best to say so for fear of the influence it might exert on the young men of the profession, if its use was encouraged.—*A. Morseman, Iowa City.*

THE PLATINA SURROUNDING CLASP.

For very one-sided plates we run a round platina wire round a molar on the opposite side of the mouth, where space will permit, instead of the bungling rubber, which too often irritates the cheek; this being made into the plate either by soldering covered ends with gold, or bending at right angles, placing a dot of thin vulcanite at the point which would touch on the cast, wax over and pour the upper section of flask, and when you pack, the two portions of rubber will come together holding everything to its proper place. The wire may be safely stretched a little on your anvil if too tight to go over the natural tooth. It is taken for granted that you have obtained a perfect model to work on by the usual process of wax and plaster, both. By one-sided plates we mean where, for instance, the teeth commence at the central and so running back.—*Mansfold's Band of Hope.*

Amalgam.—Dr. J. G. McCulloch says, that while in the hands of the charlatan it may be used to deceive and impose on a confiding public. The most skilled operators will find cavities in which nothing else can be used; teeth of a character that no other material will save, and patients whose means will not permit expensive operations in gold. He referred to an article published in the *Southern Dental Journal*, by Dr. G. Chisholm, in which various evil results and diseases are attributed to amalgam fillings in the teeth, with, however, not a fact or a theory advanced to show how or why the amalgam should be held responsible beyond the query: "If it was not the amalgam, what was it?" Dr. McC. says amalgam stands second to no other material, when properly used, the cavity properly prepared and the filling thoroughly finished,—used with judgment and in its proper place; that it would save teeth that no other material would save, and could be used where no other material could be employed. He spoke of its value for attaching facial crowns to otherwise useless roots. Also as a means of saving the teeth of the poorer classes, who require assistance as much as wealthy patients. If only for them, amalgam is the greatest boon given to dentistry.—*Independent Practitioner.*

Hypodermic Syringe and Instruments.—It is astonishing how few know how to keep this useful little instrument in good order and ready at any moment for use. How often have I heard practitioners say "I would have made a subcutaneous injection, but my syringe would not work."

If the leather on the piston becomes dry—which it should never be allowed to do—soften it in cold water, *never* in warm. Leather should always be softened in cold water; then soak it well in glycerin.

If you put away your syringe, expecting not to use it for several weeks or months, put a few drops of glycerin into the syringe. Do the same with your aspirator. When you want it, it is ready, for the leatherhas been kept soft. After having used your syringe, clean with water, unscrew the needle canula, and before putting the wire into the canula again, run it several times thru a flame to evaporate all moisture. Always keep the point of your needle canulas sharp.

To keep your instruments bright and free from rust, spread a little ungt. hydr. on a piece of chamois skin, after having washed and dried the instrument, rub over with the prepared chamois.—*Edward Borck, M. D., in Archives.*

Isinglass for Matrix.—Plate mica (commonly called isinglass) has been found by the writer to be peculiarly well adapted for matrices for amalgam and gutta percha fillings. It is easily shaped, is sufficiently pliable to bend around the cavity, and being very smooth is not liable to drag away the filling material with it on being removed.

San Francisco. S. J. SPENCER.

Bad Breath.—In the May "ITEMS," Dr. J. Calder, of Oregon, says he thinks "the use of charcoal is unsafe and uncertain as a remedy for bad breath."

Let him or some one else, give a better remedy.

Philadelphia. H. M. RAMSDEN.

Tobacco ought to be the bane of dentists. To many ladies the smell of tobacco is sickening. Well do I remember (to my sorrow) a case I lost, because the patient noticed the odor of tobacco about me.—*E. H. Raffensperger, Marion, Ohio.*

Filling Dead Roots.—Dr. Jennings, of Cleveland, not only fills the roots of dead and pulpless teeth with a solution of gutta-percha, but also fills the cavity formed in the alveolus by an abscess. This he does by a process of pumping, using as a piston, a broach bound with cotton. After thoroughly removing all the *debris* of a putrescent pulp, he washes both cavity and canal with alcohol, a weak solution of carbolic acid or both, and then forces in the gutta-percha solution till it makes its appearance externally, either at the margin of the gum or fistulous opening. His theory is that by filling with a benign and inert substance all space around the apex, there will be no possibility of an exudation that in turn will degenerate into pus. The idea is a novel one and worthy of a trial in many of those cases that give us no end of trouble, and frequently mortify us by our unsuccessful attempts to produce or rather induce a cure.—*Dental Register.*

TOOTH STRUCTURE.

DR. FRANK ABBOTT, NEW YORK.

I have so many times seen, in sections of enamel magnified under the microscope 1000 to 1500 diameters, what certainly seemed to be fibers so clearly demonstrated that the idea of doubting their existence appears almost too ridiculous to talk about. To go back to the question of organization. Bone-tissue, as you know, contains about thirty-three per cent organic material (including the matrix into which the lime-salts are deposited, the reticulum of living substance, blood-vessels, etc.) There is an inflammatory condition of bone called osteitis, a disease known to all surgeons, and every man who is familiar with the pathology of bone tissue understands it. Now, in dentine we have a tissue which presents a little less organic material, it is true, but can any one sustain the position that because of this slight difference in organic material inflammatton cannot occur in it? This is limiting pathology with a certainty quite startling. True, it has no regular circulation, so far as blood-vessels proper are concerned, but that there is a kind of circulation in dentine we have not yet seen, nor understood, I do not doubt. As an evidence of it we have from the beginning of the deposit of lime-salts in the odontoblasts, through the entire life of the pulps of teeth, a constant accretion of inorganic material in that tissue. A similar process is constantly going on in all the osseous structures of the body. If there is no organic or living substance in enamel, I woud like to know how it is that when the pulp of a tooth is dead the enamel loses its peculiar life-like appearance and looks in every way like dead tissue. How does it change in that manner if there is not something going on in the way of death of the tissue, and how can this occur if it is a solid "secretion" of lime-salts? There are certain conditions, of course, which predispose teeth to decay, and that their environment has much to do with it there is no doubt.

There is one question in reference to the presence of micro-organisms in the deeper portions of caries that has troubled my mind quite considerably. If many are left in teeth when they are filled, as must be if they are present, as is claimed by some observers, when a reorganization of the disorganized territory of dentine takes place,—a process the results of which are observed by all clinicians,—what becomes of these organisms? Do they enter into and form a part of the reorganized dentine, or do they quietly steal away? They must be dependent on *outside nourishment*, or it is fair to presume they woud live and thrive under a filling as well as before the filling was introduced. This would seem to "checkmate" the theory that they live on the organic portion of the tooth, and that they necessarily "secrete" lactic acid.—*N. Y. Odonto. in Cosmos.*

THE BRITISH DENTIST.

A. W. HARLAN, M. D., D. D. S., CHICAGO.

The British dentist is more social, and that element in his nature almost overshadows the scientific and practical side, even in dental societies. Their method of conducting meetings of societies has much in it to commend. Members do not straggle in at all hours, and no talking or whispering goes on while a speaker has the floor. The business of the meeting is conducted in a dignified manner. This to some might appear dull and prosy, but it pleased me. Scientific work is no laughing matter, and for a few boisterous, ill-mannered persons to talk and laugh and whisper while a scientific paper is being read, which has required weeks or months of labor to prepare, is a poor compliment to the author. This decorousness impressed me more forcibly, as I have been in society meetings where attention was almost wholly diverted from the business in hand, to listen to a story or other trivial subjects.

English fees are not based on anything but tradition. There is no justice to the operator in his receiving but a guinea for his maximum fee. I will not say that larger fees are not charged or collected by English dentists, but the custom for those of the highest rank is to receive about $5 for each operation performed, be it easy or laborious. Americans practicing in Great Britain usually try to transplant American ideas, but they do not all succeed, as I heard of some who have adopted the English custom. Fees for artificial teeth are even higher than in America—and also lower—for in America no one ever heard of a dentist inserting a single tooth on rubber base for four shillings and six-pence—about $1.10. As you descend in the grade of practitioners the fees decline also, fillings being inserted for a shilling, and artificial teeth going for a song. The custom prevails of inserting teeth over roots which are unfilled; a very filthy method.

PUNCHING RUBBER DAM.

In your April No. of "ITEMS" we notice an article by Dr. A. H. Brockway, of New York, "Applying the rubber dam," in which he says he uses "punches of at least three sizes." We use but one instrument for this:—A White's No. 8 hand bur. By pushing the bur through the rubber very quickly, a very small hole is made; and by doing so slowly a large one is made. All intermediate holes can be punched accordingly. When a very large hole is desired, place a finger on the bur over the rubber tightly and draw the rubber till the hole is made. This dispenses with several instruments.

Phenix, A. T. KEY BROS.

INFLAMMABLE GAS FROM THE STOMACH.

We clip the following but forget the source.—Ed. ITEMS.

"A rather strange thing happened to me about a week ago. For a month or so I was troubled very much with foul eructations. I had no pain, but the smell of the gas which came from my stomach was disagreeable to myself and to all who happened to be in the room. About a week ago, I got up in the morning and lighted a match to see the time, and when I put the match near my mouth to blow it out my breath caught fire and gave a loud crack like the report of a pistol. It burnt my lips, and they are still a little sore. I got a terrible surprise, and so did my wife, for the report awakened her." From the above occurrence it would appear that the condition known as "halitosis," or diseased breath, is not only a source of misery to the sufferer, and to those compelled to associate with him, but may, under certain circumstances, become a condition of danger to the unfortunate possessor of it. In the present instance, the gaseous results of the imperfectly digested food had their atoms of carbon and hydrogen so arranged as to give rise to the presence of carburetted hydrogen, the inflammable and explosive qualities of which came into play when mixed with a proportion of air in presence of the unguarded light of the burning match.

ERRORS IN ENGLISH.

DEAR DOCTOR:—Lessons in the elementary branches appearing in a journal published for an educated profession, may be construed as a reflection on the attainments of at least a portion of its readers; but if such instruction is necessary, it should be given. In this view, your articles that have appeared on these topics were fully justified, though we can imagine that the conductors of some of our professional journals would be shocked to have anything of the kind to accidentally creep into their pages.

Here are a few specimens of the misuse of words that have gone unchallenged long enough. The adjective alveolar is used for the noun alveolus or alveola more times in our journals than the correct forms are used. The adjective maxillary is as often substituted for the noun maxilla. Why such palpable ignorance of the use or form of words has not been criticised out of existence is hard to account for. Members of the medical profession and many English dentists and not a few American dentists, seem to take a peculiar satisfaction in calling roots of teeth "fangs," and have Dunglison with them. But Webster gives exactly the opposite meaning to the word fang, viz: "The part that catches and holds the prey." "The protuberant fang of the Yucca." I wish the doubters as to what the latter definition means could run against a specimen of the yucca tribe in this country; he

would *feel* the point, if he did not see it. So in common parlance we hear of "The peninsular of Florida," "Down the peninsular," etc., for peninsula. There are many more infractions of a correct use of the English language, and I will thank any one who is competent to extend the lessons till every error in common use is pointed out.

Respectfully,

Manatee, Fla. W. E. DRISCOLL.

HAVE WE A PERMANENT PLASTIC FILLING?

Ed ITEMS:—I am exceedingly anxious, as of course all others are, to find some permanent plastic filling that will be the thing for filling front teeth, while I have tried a great many high grade amalgams that are recommended to be equal to the need, but have had the mortification to see how false they all are. I have been using your phosphate for a long time and find it to be splendid as a temporary filling (just what it claims), and some instances I have had fillings to stand perfectly for four or five years in favorably located cavities; but there are some cavities in front which it is imposible to fill with gold without causing the death of the nerve (and almost the patient). A patient came in recently in whose front teeth I found some plastic fillings that looked to be just the thing needed. At any rate it was different from anything in my knowledge. If you know any plastic filling, amalgam, alloy, or any thing else, there is any hope of success with, please let me know, and the price of a trial package, and I will be glad to try it.

Tyler, Texas. F. E. GASTON.

AUTHORITATIVE RECEIPT FOR AMALGAM.

DR W. E. DRISCOLL, MANATEE, FLA.

The American Dental Association should appoint a committee to report what in their judgment constitutes the best combination of metals for dental amalgams. If their report is questioned, further experimenting can be had and valuable light shed on one of the most important questions now waiting decision by the dental profession. The welfare of the people and the reputation of the profession demand this action. The interests of no individual should stand in the way of a movement affecting so many thousands who seek dental service at our hands, and who are always promised the best under the circumstances. To insure them the best no means must be neglected to attain that end. Such action is clearly within the province of the American Dental Association. Let others make reports if not satisfied with what they may give us. Neither societies nor individuals will be bound by such action, but a long step toward a final decision no doubt will be realized. It will be a duty discharged, and so long as neglected will indicate

ignorance, indifference to duty, or lack of courage to face personal interests that might conflict with such action.

It is not clear that manufacturers would be injured. Whatever reputation they have attained for fair dealing will be so much capital on which they may embark in the manufacture of the approved combination of metals. Individuals cannot afford to manufacture for their own use. Neither can each conduct experiments to settle the question for himself. It is for just such cases our societies are sustained,—to give the aggregate experience and judgment of the profession on questions so intricate as to require the experience of all to decide what is best. Millions of teeth are filled with every conceivable combination of amalgams. We know there is much difference in them. What in the judgment of the congregated wisdom of the profession is the best combination of these metals for us to use?

VULCANIZABLE GOLD.

DR. W. K. CORNELL.

I desire to offer an experience of more than two years, of extensive use of "Vulcanizable Gold," as an offset, to the adverse criticism of Dr. Berry in August number of ITEMS, under the above heading. I have found the claims of the "Sole Agent" substantiated to my entire satisfaction, and wish to add to the list of "inevitable indorsements," that the longer I use it the better I like it. I have yet to hear the first word of condemnation of it, from one of my patrons. I have examined plates which have been worn upward of a year and a half, and find no tendency to wear off by friction. I have seen mouths badly inflamed restored to a normal condition in from three to six weeks, after the insertion of a gold lined plate.

Sciatica Relieved by Cocain.—Dr. W. B. Menz, of Vidalia, La., writes to the *Medical Record* that he was called to see a lady, fifty-five years of age, who had been a sufferer from sciatica for ten years. The pain was very severe, and extended along the entire length of the nerve. She had run the whole gamut of anti-neuralgic remedies, and had never obtained more than transient relief. Having with him a vial of a four per cent solution of cocain hydrochlorate, Dr. Menz determined to try the efficacy of a subcutaneous injection. The hypodermic needle was inserted deeply over the sciatic foramen, and about twenty drops of the solution passed into the tissues. The pain ceased almost immediately, and during the six weeks that have since elapsed has not returned, though there has been no further treatment. The relief given by other remedies had never been of more than from two to four hours' duration.

SETTING A CROWN.

DR. H. S. KING, TREMONT, NEB.

Those of us who do but little of that kind of work, are sometimes called on to set a crown, and find that we have no ready made crown or plain tooth that will stand soldering, to fit the case. If we have a suitable rubber plate tooth; has any one any thing to say why it should not be set in the following manner? I had occasion to try it, and the result was so satisfactory that, unless valid objections are raised, I shall try it again.

After cutting the crown off to, or above the gum, prepare by drilling out the canal with different sized square end fissure burs. Drill straight and have no undercut. Take gold or platina pin: nick, barb, or thread cut. Cover with wax and while warm force it into and over the root. Remove and you have impression of the end of the root, and steps in the canal left by different sized burs. To that wax the tooth, ground to make a close joint with root on labial side. Place on the root and make the crown take the position wanted. Remove, dry, wax up and smooth the palatine side. Remove a little wax from the end of the pin so that plastic will hold it in position. Flask, wash out wax, pack rubber, and vulcanize.

A piece of metal can be placed to take the ware of mastication if the nature of the case require it.

When this is neatly done, polished and set by making slight undercuts, using a little cement and driving home, it makes a good serviceable crown, and one that a novice in plate work can make. He has, therefore, no excuse for extracting healthy roots to make room for a plate of one or two teeth.

NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

The National Association of Dental Examiners held its fifth session in the Park Theatre, Niagara Falls, commencing Monday, August 2, 1886, President J. Taft in the chair.

The following State Boards were represented: Ohio, by J. Taft, H. A. Smith and F. H. Rehwinkel; Illinois, by George H. Cushing; Michigan, by A. T. Metcalf, F. W. Clawson and G. S. Shattuck; California, by S. W. Dennis; Pennsylvania, by S. H. Guilford, W. E. Magill and E. T. Darby; New Jersey, by Fred. A. Levy; Iowa, by J. T. Abbott; Maryland, by T. S. Waters; Louisiana, by Joseph Bauer; Indiana, by S. B. Brown; Wisconsin, by Edgar Palmer.

Officers were elected for the ensuing year as follows: J. Taft, president; H. A. Smith, vice-president; F. A. Levy, Orange, N. J., secretary and treasurer.

HEREDITY.

S. D. ROBERTSON, D.D.S., CHICACO.

A very curious and noticeable fact pertaining to this subject, is the transmission of special marks or deformities exhibited by one of the parents, or more remote ancestors not common to the species, which have a tendency to show themselves in alternate generations, or even at greater intervals. I refer to moles, harelip, growth of hair in unusual places, an additional number of fingers or toes. Special malformations of the heart and other organs have been traced to hereditary influence.

Hereditary tendency to mental diseases is eminently propagable, chief among these are hallucination, monomania, suicide, mania, dementia, and idiocy. In France one case in every three, among the peasants one in every ten cases, of insanity from all causes is found to occur in families predisposed to mental alienation. In Italy the proportion is nearly the same, individuals who have inherited an unhealthy cerebral organization or physical diseases, fall victims to insanity more frequently than those born physically and mentally robust.

Abercrombie cites a case of hereditary hallucination where the reason remained intact, though hallucination is usually coupled with insanity. This disposition is of such a nature that if the patient meets a friend in the street, he can not tell at once whether it is an actual person or a phantasm; by dint of attention, however, he can make out a difference between the two, usually he corrects the visual impressions by touch or by listening for the foot-falls. His father and grandfather were like him.

This man was in the flower of his age, of sound mind, in good health and engaged in business. A man in the Lyons Hospital was subject simultaneously to hallucinations of taste and smell, tormented by disgusting odors and taste, he spent whole hours blowing his nose and spitting. His father died in the same hospital from the effect of mania with hallucination. A thoughtful professional man of mature age, of regular habits, having no strong passions, and beyond the reach of want, committed suicide on the 17th of October, 1769, leaving behind him, addressed to the council of his native city an apology for his voluntary death, which it was not thought advisable to publish, lest men should be encouraged to quit a life whereof so much evil is spoken. His father had committed suicide at the same age as himself.

What hidden disposition of mind, what sympathy, what concurrence of physical laws caused this father and his two sons to perish by their own hands and by the same form of death, just when they had attained the same age?

So of helancholia, or mypochondria—called by some authors Lypemania. A woman effected with Lypemania was sent at the age of

42 to an asylum, and there died. It was discovered that her grandfather and her mother had been insane, and her son, barely 15 years of age already gave signs of Lypemania. In 482 cases of this disorder, there were found to be hereditary, 110. Particular forms of degeneration are propagated in some families, so that we see the suicidal impulse in one, while the uncontrollable and insatiable desire for alcoholic stimulants is the heritage of another.—*Dental Register.*

The Anesthesia Produced by Nitrous Oxid is central, caused by changes in the cortical cells of the brain—the end organs has nothing to do with it, and the phenomena produced by it are distinct from those produced by ordinary asphyxia. The effect is much more rapid. Has any one known insensibility to be produced by asphyxia in half a minute? Besides, when the oxygen of the blood is exhausted so as to produce asphyxia, the respiratory centers in the medulla become paralyzed and the movements of respiration cease; but under gas complete insensibility co-exists with regular breathing. Nitrous oxid acts as a stimulating narcotic, though no doubt some of the symptoms produced *during the ordinary mode of administration* are caused by partial asphyxia. There is also the important fact that the state of the circulation during nitrous oxid narcosis is absolutely distinct from that produced by asphyxia, and any who wish to prove that nitrous oxid acts simply by producing a state of partial asphyxia must be prepared to invalidate the evidence brought forward in proof of this difference.—*Dudley Buxon, Eng.*

The Venerable John Dougall has gone to his rest. At seventy-eight, without a sigh, without a groan, and, from all appearances, without a pain, he leaned on the shoulder of his daughter at the table, just as he was about to partake of his breakfast, and immediately expired. But who is John Dougall?—not a dentist, not a doctor, not a minister, no professional of any profession, but one of God's true men. As editor of the *New York Witness* for the last quarter of a century he has wielded an influence for God and humanity—second to none of the present generation. He was a power in every good cause. As an exponent of the Prohibition party, the *Witness* has been specially influential. Dear reader, God grant that *we* may do life's work so well that what can be said of John Dougall may be said of us: "Blessed are the dead which die in the Lord from henceforth: yea saith the Spirit, that they may rest from their labors, and their works do follow them."

Do not see how many words you can compass in stating a few facts, but how many facts you can compass in a few words.

For Our Patients.

HOW TO SELECT YOUR DENTIST, AND HOW TO TREAT HIM.

PROF. JAMES TAYLOR.

Select your dentist for his known skill and strict integrity. Make up your mind on this point well before you give him a call. This done, go to him for advice and skill. Recollect, time to him, as well as to every business man, is money. State your case promptly, with few words, and enter into no lengthy description of pains and troubles. He hears them too often. Far better seat yourself in his chair, and merely answer his questions, for, in nine cases out of ten, at a glance, he knows your case far better than you do. Never set up your own opinion above his. If he is the man you take him for, he has had better teachers than you. Your proffered advice implies a dout of his attainments, or an egotism in your own character, either of which you would be ashamed to acknowledge. If you only want his advice, take it, and follow it. Having now used his capital, pay him for it; for there is nothing for which he can charge you for professionally, more worthy of a fee.

If you want the use of his skill, give him a fair opportunity to exercise it aright. Avoid a fidgetty, nervous manner. Recollect, by your firmness and nerve, you very much assist in securing a good operation. In this way you shorten the operation, and at its close, patient and dentist will feel far better.

You should never expect a tedious and difficult operation to be performed without some pain and inconvenience. Let this be ever so much, keep up your courage and firmness. Never hurry the operator. Rest assured, he will not labor longer than necessary. If he is the man you have selected him for, he must persevere till the end is accomplished.

As an old operator, I can freely say, I wish never to operate for any patient unless I have their confidence not only that I will execute my work faithfully and well, but also, that I will do it with the least pain consistent with success.

Let there be a perfect understanding between patient and dentist. We mean by this, you should feel safe in his hands: that he is not unnecessarily holding the head too tight, or cutting away too much of the tooth, or pressing too hard on the gold, but that he is doing all this just right, and for your benefit. Let there be no crawling away from his hands. Your head should be unreservedly placed in the hands of the dentist. The least twist or change of position in the head, forces the operator to change also his position, and this often cannot be done

without great constraint and exhaustion. The least change in position of the head may obstruct the light, or over flow the cavity with saliva, or cause the instrument to slip. Every operator will tell you that his work is often spoiled in this way, and a filling half done, all lost—gold lost, and time also—the operation prolonged, and patience almost exhausted. These things occur often without any fault of the patient, but far oftener by their want of firmness.

Fully appreciate the importance of the operation, and determine that, if *not well done*, it shall *not* be your fault; but having done all you can, (and rest assured it is far more than is generally supposed,) you can, except in extreme cases, with propriety, throw all the responsibility of failure on the dentist.

If you have a tooth to be extracted, make up your mind before taking the chair. It is no place to parley with a condemned organ. No amount of talk—no amount of screwing up of courage, will diminish one iota the pain of extraction. Nine-tenths of the teeth broken under the hands of good operators, are the result of the patients uncontrollable nervousness. A firm head, placed just as the operator desires, the hands down, will always, if at all possible, secure a quick and easy operation.—*Dental Journal.*

Artificial Marble.—This can be made by soaking plaster of Paris in a solution of alum; bake it in an oven, and then grind it to a powder. In using, mix it with water; and, to produce the clouds and veins, stir in any dry color you wish. This will become very hard, and is susceptible of a high polish.

"QUARTZ, old boy," remarked the assayer, "you ought to prospect around the new widow at the hotel; I've been told she assays away up in the five figures." "She's a rich find, I know," replied the miner; "I haven't heard anything about her, but I saw her laugh, and she shows the color in her teeth."—*Burdette.*

Many words are lightly spoken
In a rash and tho'tless hour;
Brightest links of life are broken
By their deep insiduous power.

Hearts of warmest feelings
Ne'er before by anger stirred,
Oft are rent past human healing
By a single angry word.

Detroit, June 29th, 1886. KIRCHNER.

Editorial.

REDUNDANCY.

"Words are like leaves, and where they most abound,
Much fruit of sense beneath is rarely found."

How easy it is to be redundant. It is not so easy to be terse. Yet brevity with clearness is the beauty of good writing. It is much easier to spread so many words over a thot as to bury it than it is to make it shine by putting a few bright words under it. Reading a book on dentistry recently, we showd it to a friend of fine literary culture, who, examining its general style, said, "Doctor, more than half these words are redundant, and only obscure the sense."

We would not for a moment give the impression that the majority of even our periodical writers are verbose. Some articles come to us so clean, meaty, and precise it would be audacious to touch a word; some of our new writers are extremely apt in making their thots more prominent than their words. Others, old writers as well as new, take a page to write what should be condenst into a sentence, and write frazes and sentences without meaning.

We give below a specimen of redundancy. Some may not consider it specially diluted; we confess we have seen much worse. If publisht without comment, it would not attract attention for verbosity by a majority of readers; on the other hand, cultured readers may see many superfluous words even in the premise we are now writing. It is difficult to practice what we preach. Try it for yourself by taking some of your own compositions; faithfully consider what might be expunged without maring the sense, and therefore which would leave the sense clearer for its removal. If you know a good writer, get his help. You may be astonisht at the result.

In the following illustration we give the original to show its redundancy; and how we would correct it is shown by supposing the italicised words omited. Of course, this is given by permission, simply suppressing the name of the author. Read it with, and then without, the *italicised* words, to see which you prefer.

THE SALIVA *OF THE MOUTH.*

In writing to you, Mr. Editor, upon the subject of the saliva of the mouth, I am *conscious that I tread upon* ground *a great many times past over by good scholars: it is in fact, so very* well trodden *that I may not present anything new to those who have studied the subject,* but *there are* some points *that* have occurred to me that may perhaps prove interesting *to some readers of the Items of Interest, who have not had he time to look into the subject.*

In every mouth of the human subject there are three kinds of *this oral fluid called* saliva; each of the three pairs of salivary *ducts or* glands, to be designated further on, sends out *or excreting* distinctive fluid. But in none of it, in its healthy *or normal* condition, is there much of either organic or inorganic substance. What gives all of it its peculiar potency, as a dissolver of food *masticated in the mouth*, is, to a great extent, a mistery. We may find some explanation further on, *though not sufficient to make all things clear.*

This oral fluid, *called saliva*, is so *very intimately* dependent on the *healthy or the unhealthy* condition *and the proper ingredients* of the blood *circulating throngh the system, that* we must *first of all* look to this as the *only and necessary* source of *constant* supply *for these glands;* for, *al*though salivary ducts, *or glands*, may be healthy *and vigorous* they cannot take from the blood what is not in it *to give.*

In a *perfectly* normal *or healthy* state of the blood, there is but a *small* trace *of the presence* of magnesium, and of the phosphate and carbonate of lime *in the fluid*,—less than one per cent. The kidneys are the proper outlet for these *limes and magnesium* after they have served their purposes in the econemy *and become worn out or effete;* though if they are increased to two or three or four per cent, but very little more is used, and we find the superabundance rushing to all outlets for escape *from the body*, nor then does it all *effectually* escape, for we find it lodged in the shape of hard, rough, irritating calculus in the convolutions, glands, and ducts of the kidneys, liver, salivary clusters, and many other places *or parts throughout the whole body.* It is on this account, *and at such times that* we find it *in such profusion* on the teeth. Its presence is *not* therefore an evidence of *the healthy condition of the system, as is often asserted by the journals, and by even some of our standard works, but of the* unhealthy *condition of the blood and the* saliva, *being a precipitate from both blood and saliva by an abnormal action.*

But let us particularize a little with regard to the source of the saliva, and through to the source of the tartar. There are three pairs of glands *in different parts of the mouth*, which are the principal manufactories of *this particular and important fluid called* saliva; *namely*, the *two* parotid *glands*, the *two* submaxillary *glands*, and the *two* sublengual *glands, one of them on each side of the mouth, and situated as indicated by their names. But it must be borne in mind that this fluid is a mixture;* most of the fluid of the mouth is mucus, *a thin viscid fluid*, from the mucous glands and follicles situated principally in the tongue, and in the skin of the mouth, *though there are a few in other parts*, and the mucous glands of the tonsils are quite important, *and should not be overlooked in our estimate.*

But, besides these *mucous follicles and glands of the tongue and fauces and the above mentioned six principal glands* there are on the inside of the lips alone about fifty small glands *which empty into the mouth*; there are *also* two hundred and fifty right and left of the median line of the hard palate—the upper part or roof of *the cavity of* the mouth—*which divides the mouth into the right and left halves.* There are also more than half as many *as that number* in the soft palate and the pendant uvula *in the back part of the mouth, to be considered.*

In order to study this subject with thoroughness and intelligence, let us look more closely at the three *principal* pairs of *the* salivary glands *of the mouth, above mentioned.*

The largest pair is the parotid, or ear glands, so named because *they are* situated far back in the mouth, *one on each side, near and* a little in front of each ear. These, and all the other salivary glands *of the oral cavity,* like the kidneys, liver, lungs, and many other *of the* organs *of the body* are racemose, or cluster glands; that is they are each *of them* composed of a large number of smaller glands connected *together* by ducts *or tubes,* all *of these* leading into a common channel *or main duct,* as the *final* outlet *into the mouth.* The tube leading from the parotid *gland,* called the duct of sterno, is about two inches long, *terminating or* opening into the mouth opposite the upper second *or twelfth year* molar *tooth.* The salivary *fluid* from this parotid gland is often the cause of an enormous incrustation of this salivary calculus *or tartar* on this tooth.

The two submaxillary glands *of the mouth* are situated, as the term implies, under the maxillary, or upper jaw bone. Each *of these clusters* is supplied with a tube for outlet of about the same length as the duct of sterno, and is called Wharton's duct, *after the name of the man who is supposed to have discovered it.* The ducts *or outlets* of these glands come up to the floor of the mouth on each side of the frenum lingue, the thin, stringy, triangular muscle uniting a part of the under surface of the tongue, to the floor of the mouth; it is sometimes called the tongue string, and is the one that, when its attachment grows too near the tip of the tongue, makes what is called tongue-tie.

We have but one more pair of glands to consider,—the sublingual, —sub, under; and lingual, tongue—is the smallest pair *of importance* in the mouth. They are *found* just beneath the mucous membrane, *or skin, of the mouth.* While the parotid and the sublingual *glands* have each but one opening *or tube leading into the mouth,* the sublingual has a large number *springing up from each gland.* As many as twenty ducts shoot off from each cluster *of this gland, and are found* opening from the floor of the mouth under the tip of the tongue, with mouths

open and their necks erect above the surrounding surface. The right cluster sends its outlets to the right *side* of the frenum lingue, *the tongue string we spoke of*, and the left cluster to the left *side* of it. Sometimes, when the tongue is drawn up quickly, or these glands are otherwise compressed, streams of pure, limpid saliva, will be thrown out with considerable force, sometimes quite out of the mouth in little streams or spurts.

The saliva from these three *principal* pairs of *salivary* glands *in the oral cavity*, are not alike, *as we have already stated.* That from the parotid, or ear glands, are generally alkalin, and *besides this*, is *comparatively* loaded with organic matter; the *secretions and* excretions of the other two, *the sublingual and submaxillary*, are generally alkalin, and contain more of the inorganic material,—principally varieties of lime,—than the parotid, and less organic matter. Tyalin is found in the sublingual, *but in none of the others.* This causes its saliva to be more limpid, and *also* such a wonderful solvent *of food.*

A prominent use of saliva is to turn starch into glucose and thus produce assimilation in *the process of* digestion.

Inhaling Medicated Vapors.—For diseases of the surfaces of the nose, throat and lungs, there is probably no more efficient manner of applying medicament than breathing them. Arthur Hill Hassall, M. D., in the *Lancet*, January 30th, describes a simple form of inhaling apparatus. He takes a glass vessel in the shape of a cylinder two inches in diameter and nine inches in hight. This he fills about haf-full of the medicated fluid (he takes, for example, a ten per cent solution of carbolic acid). The top of the vessel is then closed by a tight-fitting cork, thru which passes four glass tubes. The larger tube is the one used for direct inhalation and just penetrates the cork. The three smaller tubes pass to the bottom of the vessel. Now, when air is inhaled from the upper haf of the vessel by means of the large tube, fresh air passes in thru the small tubes, and while bubbling up thru the fluid becomes saturated with the medicin. The amount of medicin inhaled will be governd by the dryness of the air entering thru the small tubes, the strength and volatility of the medicated solution, and the temperature of the fluid in the vessel.

Three small tubes are chosen in preference to one large for the admission of air because they will better distribute the air bubbles, and thus bring the air in contact with a greater surface of the fluid.

Cures of sciatica are reported as having taken place in Paris after a single application of Dr. Debove's method of freezing the skin above the painful parts with a spray of chlorid of methyl. The operation is said to be applicable also to facial neuralgia.

MAKING AMALGAM.

Dr. Driscoll on another page really takes the bull by the horns. The idea of asking such a dignified body as the American Dental Association to give a receit for amalgam? The American Dental Association has had its tussle with "this vext question" for the last time, unless it is to discourage its use in the most dignified manner. *It will never father an amalgam.*

There is a reason why it should not, besides the fear it may have of encouraging its use; for, if it were to give what in its judgment would be the best combination of metals, this would be a small step toward making a good amalgam or alloy. As well ask the Association to give a receit for a good gold foil; to make either requires the hand of a skild manipulator. The profession has now receit after receit, some of them excellent; but quite as important is the *manipulation* of these so as to produce the best results. Dr. Chase, of St. Louis, gave a good receit long ago; but ask him how many dentists he thinks succeeded in making a good amalgam from it. Ask him how many letters he received saying in substance, "Doctor, I have made some amalgam after your receit, and it is not at all like what you make. What is the reason?" The Doctor says correctly when he replies that it is because it takes special skill to manufacture it after you have obtaind the proper combination of the metals, and but few dentists will go thru the necessary study and disciplin to obtain it. Ask Dr. Flagg if he has not been vext with just such letters till he has dispaird of putting any good amalgam before the profession by publishing a receit for its manufacture. He has even gone so far as to publish a book on this subject, in which he has devoted much space to clear up these difficulties; and yet the great majority of private manufacturers fail to produce a good amalgam. Why? 1st. Because, as we have intimated, it requires much time, study, and patience to acquire the necessary skill to manipulate in the process of manufacturing it; and 2nd, because, if it is not made on somewhat of a large scale, with proper machinery for its reduction to powder, it will not pay for the trouble and expense, and will be injured by the presence of iron filings. After spending two years in bringing our Gold and Platina Alloy to its present condition, we gave the receit in 1878 to the New Jersey Dental Society; but, so general was the failure to produce the same results which we produced, we were obliged to give our own time to its special manipulation. Even a prominent professor in one of our dental colleges said to us, not very long since:

"Doctor, I don't believe you put any platina in your Alloy."

"Why, Professor," we replied, "how can you say that, when I say I do?"

"You may combine it in the form of a mechanical mixture in the

condition of a powder or a platina sponge, but you do not combine it by melting, as you do the gold and silver."

"Yes, I do."

"But I know better: I know if you subjected the other metals, specially the tin, to such a necessary heat, you would burn them up. Besides, you cannot combine platina in that way with the baser metals."

"O yes I can, and I do; you mean to say you can not. And if there is no platina in it what makes it so superior to my amalgam in edge strength and fine texture? For there is no difference between my amalgam and my alloy except that the alloy contains gold and platina."

Extraneous Subjects.—Some readers complain that such articles as "Redundancy" have no proper place in a magazine on dentistry. This thot generally comes from readers of culture, who have given good composition much study. They do not see its importance in such connection, because it is not important to them. There are others, anxious to become good writers, who would receive no hints in this direction unless found in their professional reading. If the few who criticise knew the many who are benefited, they would not grudge the little space we take for this purpose.

Tho dentistry is the main subject of the ITEMS OF INTEREST, we aim, in a subordinate degree, to educate the whole man. We are glad there are so many learned men in the "profession," but there are many unlearned, uncouth, unthinking men, who should be stimulated to thotfulness, refinement, and hard study, and many between these extremes who say they are greatly benefited.

Sugar is not injurious to the teeth. It is the acid fermentation often following its use that does the mischief. But this fermentation will not follow if the saliva is in its normal state of alkalinity or even of nutrality. Acid will not produce caries unless in a nascent condition of fermentation. Mineral acids may soften them, but will not cause them to decay; and eating acid fruits will not injure them. To produce caries, there must be present in food the first process of decomposition, and this cannot occur on teeth well cared for.

What does this mean? "THE Students' Society of the Dental Hospital of London gave their first Smoking Concert of the season on the 22nd March, at the Mona Hotel, Convent Garden."—*Dental Register, London.*

Will our English contemporary please explain? And while explaining please tell us if these students are of both sexes. And yet, does it matter, for is not our rules of morals the same for both?

Soling Shoes with Rubber.—A nice, easy, and inexpensive way of soling shoes is to adhere a piece of sheet rubber to the sole with rubber cement. Buy at the rubber store a half yard of stiff sheet rubber and a half pint of rubber cement. Cut from the sheet a proper pattern; pour on the sole after thoro cleaning, enuf cement to thoroly cover, evening it over the surface with the finger. Do the same on one side of the sheet rubber. Now put a second coat on each, and immediately press the rubber to its place; tack around the edges with very small tacks, to hold the sheet in place till the cement dries. The shoes should not be worn for three or four days. It is still better if they are placed where they will keep quite warm. The durability of the sole will depend on the quality and thickness of the sheet rubber. The boots we have now, we have worn continuously (except during the hot wether of summer) for four years, and have soled them in this way five or six times. It is quickly and easily done, after learning how, a half yard of sheet rubber and a half pint of cement will tap many pairs of shoes. It causes no sweating of the feet, but keeps them drier than letaher bottoms, and is much easier to walk on.

Said a qack who came to an inland town to sell his wonderful medicins, and "pulled" teeth "without pain" for nothing as an advertisement: "The dentists of this place ot to thank me for pulling so many teeth, for they will have the profit of putting in new ones." "My tooth was not much decayed" said one of his victims, "but I thot as I could have it out for nothing, it was better than having it filled." What a crime! Yet, brethern, are *we* as reluctant to extract teeth as we ot to be? How much educating the people need, to prevent them from becoming the victims of qacks in and out of our profession.

Sudden Recovery from Insanity.—Apropos to our article under this caption in Aug. ITEMS, Prof. Wm. Matthews gives the following incident: A British Captain, who while giving orders on the quarterdeck of his ship at the battle of the Nile, was struck on the head with a shot, immediately became senseless. For fifteen months after his removal to Greenwich Hospital he showed no signs of intelligence. He was then triphined, when consciousness at once returned. He immediately began busying himself to see the orders executed which he had given during the battle fifteen months before. The clock work of the brain unaware that it had stopt, pointed, when set going again, to the exact minute it had last markt.

We are indebted to the kindness of the *Cosmos* for our report of the National Association of Dental Faculties.

The Baltimore College.—Its forty-seventh session was one of its most successful. There were 44 graduates.

Miscellaneous.

ENGLISH SPELLING.*

A. H. MCKAY, B.A.. B.S.C., PICTAU, NOVA SCOTIA.

No dout, in adopting the Roman alfabet, the English originaly intended to adopt the Roman fonetic system by which each sound shoud be represented by a distinct character. But at the time when our present language was being ignorantly congeald in al its fantastic picturesknes into the rigidity of the arctic senery of our present orthografy, this original purpos was widely departed from. Now, as Principal Bouton of Shelburn puts it in an adres before the convocation of the University of New York in 1881,—"The English alfabet has 200 or as some say 563 sines of sounds." This is a large alfabet—many more than the simple 26. But to make maters tenfold worse, when you have one of these 563 sines, you cannot say which of the sounds it shoud have, unles you have herd it before and memorized the association. For instance, the sound of *e* in *meet* is represented by 40 sines; *a* in *mate*, by 34; *o* in *note*, by 34. On an average, there are 14 diferent ways of riting the 40 diferent sounds of our language. The word *scissors* can be spelt in 596,580 diferent combinations of leters, each combination of which can be justified by analogy. The simple eufonius name of the great English painter, Turner, mite be spelt in accordance with English analogies, *Phthyrrhgnolo*. (See the words phthisic, myrrh, malign, and colonel.)† Now the law forces us to consume years of a child's life in what is simply a pure efort of cram,—the craming of what must be to al youthful persons arbitrary aglomerations of leters in many cases lacking the advantages of the Chinese characters. But there is worse than lost time in it. Of al youthful tasks, speling with its mixture of haf French, haf Latin, haf Saxon, haf Greek, haf fonetic, holy hodg podg orthografy, is the first, as a general rule which begets a distaste to scool work. Hundreds and thousands and milions of Englishmen have takn a dislike to scool studies because of speling. Those who are naturaly cramers pas. And here we get a glimps of another vast unnotist evil. I fear our English speling tends to sift from the great curent of potential sientific scolarship in its erliest manifestations the most original and inventive of its minds. It lets the cramer pas; the other, it disgusts. No wonder we have no Shakespears in these days of speling dril! No wonder, so many men of genius rise outside the ranks of the scool! If the English speling were only as reasonably fonetic as the German, I believe England to-day woud compare more favorably with Germany in original sientific work and filosofic thot. Max Müller says: "English speling is a national misfortune, and in the keen international race between al the countries of Europ, it handicaps the English child to a degre that seems incredible til we look at statistics." Again he makes a ruf estimate: "Milions of children at scool mite lern in one year, and

*Our alfabet is poor at best, but why not make the best use of it we can? We here make this atempt, tho we omit several beterments which mite be included.

†The Fonetic spelling of Turner is Trnr; for these two r's are vowels having the sound of er. —Ed. Items.

with real advantage to themselves, what they now reqire *four* or *five* years to lern, and seldom succeed in lerning at al." Read the treatis of Dr. J. H. Gladstone, F. R. S., of the scool board of London, in which he deduces from English statistics conclusions as strong as these I present. I can qote but a line: "If English ortografy represented English pronunciation as closely as the Italian does, *at least* haf of the time and expense of teaching to read and spel woud be saved." This is strong testimony to the extent to which the English child in his education, and the English language in its adoption by other races are handicapt by our speling. Gladstone's researches have been very extensive and thoro. Apart from its speling, the English language is the most concisely expresive of al languages; and by reforming its speling, besides removing the tremendus dificulty of its ortografy, it mite be made 17 per cent more concise. Such considerations, I have no dout, prompted the folowing from Jacob Grim, the great German filologist: "The whimsical ortografy of the English language stands in the way of its universal acceptance." As compared with German, the report of the Faculty of the University of Misisipi to the State Legislature, in 1879, makes the following statement: "Speling hinders our peeple from becoming readers, by the length of time it takes to lern, and by the dislike of reading it induces. An average German lerns in about *one-third* the time." Yet the Germans with the advantage of so perfect a fonetic system, founded in 1876, a society for a more "simplified German speling." And so inteligent have the Germans been to take advantage even of the smalest improvement, that on the 1st of April, 1880, by a ministerial decre, the use of the reformd speling was made obligatory in text books of the elementary scools of Prussia, and on April 1st, 1885, the same has becom compulsory in the secondary, or hi scools. And Austria has folowd suit.

Let us consider, how much time mite be reqired to master speling and mecanical reading with a fonetic speling. Were it as fonetic as the German, it woud, acording to estimates alredy qoted, take *one third* the time—that is, *one* year. Then *two* years are totaly lost and wasted, and worse than wasted. Why? Because to the young, uneducated child it is a proces of cram, systematic cram, on a portentous scale, and is plast at the many portals of our educational work, which intensifies the mischievus efects of the system, and stil peeple wil tauk of the evils of craming, while the hydra is their own fashionable pet. But were our speling system fonetic, mecanical reading and speling coud be masterd in les than one year. It is perhaps not generaly nown that in forin countries, and even in America and England, our language is taut in som scools at first from fonetic books.

They then pas on to the ordinary English, and find the proces to pay. Mrs. E. B. Burnz, of New York, says: "The fonetic teaching in the Fisk scool (at Nashvil,) as elsewhere, proved beyond al cavil, that with fonetic books as much coud be accomplisht in four months, in teaching to read, as by a year with the comon method, and moreover, it showd that there is no dificulty experienst by children in pasing from fonetic to the ordinary printed books." How much more satisfactory woud the system be were the ordinary book not in existence! Mr. Wiliam Colbourn, of Sturminister, England, is qoted by Mr. Fernald in the *Popular Sience Monthly*, as folows: "My litle

Sydney, who is now a few months more than four years old, wil read any fonetic book without the slitest hesitation; the hardest names or the largest words in the Old or New Testament form no obstacle to him. And how long do you think it took me—for I am his teacher—to impart to him this power? Why, somthing les than *ate* hours! You may believe it, or not, as you like, but I am confident that not more than that amount of time was spent on him, and that was in snatches of five minutes at a time, while tea was geting redy. I know you wil be inclined to say: 'all that is very wel, but what is the use of reading fonetic books? He is stil as far off, and may be further from reading romanic books.' But in this you are mistaken. Take another example, his next elder brother, a boy of six years, has had a fonetic education so far. What is the conseqence? Why, reading in the first stage was so *delitful and easy* a thing to him, that he taut himself to read romanicaly, and it woud be a dificult mater to find one boy in twenty, of a corresponding age, that coud read half so wel as he can in any book." Am I not then *under* the mark, when I say that *two* years of scool work are uselesly wasted, and worse than uselesly wasted!

ITEMS OF INTEREST ABOUT PENNSYLVANIA HOSPITAL.

There is a long chapter of interesting things about the Pennsylvania Hospital. It was there Dr. Bond introdust the first course of clinical lectures for the instruction of medical students in this country. It started the first medical library, now one of the most valuable in the world. During the Revolution it was ocupied by the British army, which despoild it of its beding, instruments, and everything of value. Stephen Girard's wife, who became insane, is buried in the hospital yard, and near by is the grave of Girard's only child, born while she was there. Had that child lived the orfans of Philadelphia probably would not have become his heirs. It was there the sufferers from the terrible epidemics of Philadelphia were treated. Out of the over-crowded condition of the place the Blockley Hospital and Almshouse came into existence. It furnisht the nucleus for a medical museum. From its fysicians and surgeons originated the greatest improvements in medical and surgical practice and appliances up to fifty years ago. It was the first fostering influence of farmacy as an art in this country, and imported skild chemists and compounders of medicin from abroad. It was the first medical institution in the country, if not in the world, to admit wimen as students to the clinical lectures, and out of this came the Wimen's Medical College, of Philadelphia, which is sending wimen fysicians as practitioners and missionaries all over the world. Many more enterprises of importance and great public interest have had their rise in the Pennsylvania Hospital.—*Dental Reg.*

Marene Glue.—This glue is employd where the materials are exposed to the influence of wet. It cements not only wood, but glass and metals. It is made by dissolving, by heat, one part of pure india-rubber in naftha; the india-rubber being cut very small. When melted, two parts of shellac are added, and the melting continued till the whole is well mixt by occasional stiring or shaking. While hot, it is pourd on metal plates to cool. Before using, it requires to be liquefied by heat, and quickly aplied with a brush, as it soon hardens.

THE VALUE OF SALT.

Severe pains in the bowels and stomach are often speedily relieved by the application of a bag of hot salt. A weak solution of salt and water is recommended by good fysicians as a remedy for imperfect digestion, and for a cold in the head it is a complete cure snuft from the hollow of the hand. We have known severe cases of catar entirely cured by persistent use of this simple remedy every night and morning for several months, when the best of eforts of the best fysicians faild to do any good. It should be used milk-warm. A good handful of rock salt added to the bath is the next best thing after an "ocean dip," and a gargle of a weak solution is a good and ever-ready remedy for a sore throat. As a dentifric, salt and water is very cleansing, and also hardens the gums. It will also prevent the hair from falling out. When broiling stake, throw a little salt on the coals, and the blaze from the driping fat will not anoy. A little in starch, boild or raw, will prevent the irons from sticking. If the irons are ruf, put a little salt on a thick brown paper, lay a piece of thin muslin over it, and rub the iron over it till perfectly smooth. Ink stains are entirely removed by the immediate application of dry salt before the ink has dried. When the salt becomes discolord by absorbing the ink, brush it off and apply more; wet slightly. Continue this till the ink is all removed. If new calicoes are allowd to lie in strong salt water for an hour before the first washing, the colors are less likely to fade. Damp salt will remove the discoloration of cups and saucers caused by tea and careless washing. A teaspoonful of salt in each kerosene lamp makes the oil give a much clearer, better light.—*Cincinnati Artisan.*

THE HEALTHY HOUSE.

The healthy house is the one thoroly penetrated and purified by the hygienic rays of the sun. In the houses of the wealthier classes, says the *Sanitarian,* there is too much luxury and elaborateness of furnishing and ornamentation; and sanitary precautions are made to give way to multiplied artificialties. Our civilization is becoming overdone. The tendency should be toward greater simplicity.

A noted fysician of New York, in recognition of this fact, has causd his house to be refurnisht, and has, so far as possible, substituted polisht surfaces, both in floors and furnishing fabrics, instead of the dust and germ secreting carpets and upholstery, which he has discarded. Also any appliance which prevents the ingress of sunlight and air into any part of the house, during, at least, a portion of the day, he most vigorously and wisely condems as a potent enemy to health.

The custom of surrounding dwellings too closely with trees and shrubbery, as ofn seen in village and country homes, is most pernicious; in these damp and sunless rooms, it is no wonder that tisic, rumatism and malaria find a fertil atmosphere for their development.

Another source of nervousness and lowerd vitality, in connection with insufficient ventilation, is the extreme degree to which our houses, places of busness, theaters, hotels, and railway cars are heated in winter. This custom alone is sufficient to prevent Americans from ever becoming a robust people.—*Mother's Magazine.*

DYSPEPSIA.

There is no greater or more foolish error, against which one might be tempted to speak in strong terms, than that which prompts the idea that all cases and classes of indigestion are of similar nature and origin. It is this idea which encourages that detestable habit of indiscriminate drug swallowing which caracterizes our age. If peeple would only study the particulars of their mode of life, habits, diet, work, and other details, and acquire even a rudimentary knowledge of the fysiology of digestion, we should at least find them infinitely less liable to pour drugs, of which they know little, into frames of which they know less for diseases of which they know nothing.

Let us clearly recognize that there is no panacea, no universal healer, no one unfailing remedy, no soverin specific, for the many headed ailments—"dyspepsia" or "indigestion." Those who labor under such an idea are only to be compared to the deluded persons who, believing in the absurdities of the quack, are found to purchase a pill or ointment which, if the ordinary statements puffing the wares in question are to be credited, will as readily heal cancer as cure consumption; as unfailingly cure scrofula as dissipate a tumor. Recognizing the true and sientific aspects and frases of the digestive process and its disturbances, we shall be the better able to appreciate the nature of the means which are to be relied on for the relief of the latter conditions.

Tufening Paper.—A plan for rendering paper as tuf as wood or leather has been recently introduced into Europe; it consists in mixing chlorid of zinc with the pulp in the course of manufacture. It has been found, that, the greater the degree of concentration of the zinc solution, the greater will be the tufness of the paper. It can be used for making boxes, combs, for roofing, and even for making boots.

Saltpeter exudation from brickwork. When the efflorescence is in position where the sun and wind do not have free access, wash it off with diluted hydrocloric or common muriatic acid of commerce. About half a pound of the acid is used with an ordinary pailful of water, the application being made with a sponge.

An excellent grease eradicator is made of the following ingredients: Ammonia, two ounces; soft water, one quart; saltpeter, one teaspoonful; fine soap, in shavings, one ounce; mix thoroly and and keep in a coverd vessel. This receit is a simple one, yet it has made millionaires of four men who have successfully controlled proprietary rights to use it.—*Cincinnati Artisan.*

Small-pox and Vaccination.—Perhaps nothing has occurd in recent times better calculated to impress minds of both the profession and the people with the inestimable value of vaccination as a reliable preventive of small-pox than the unusual prevalence of this disease in the city of Montreal, having a considerable percentage of her population not only unvaccinated, but by a prejudice and want of knowledge stubbornly opposed to being vaccinated.—*Journal American Medical Association.*